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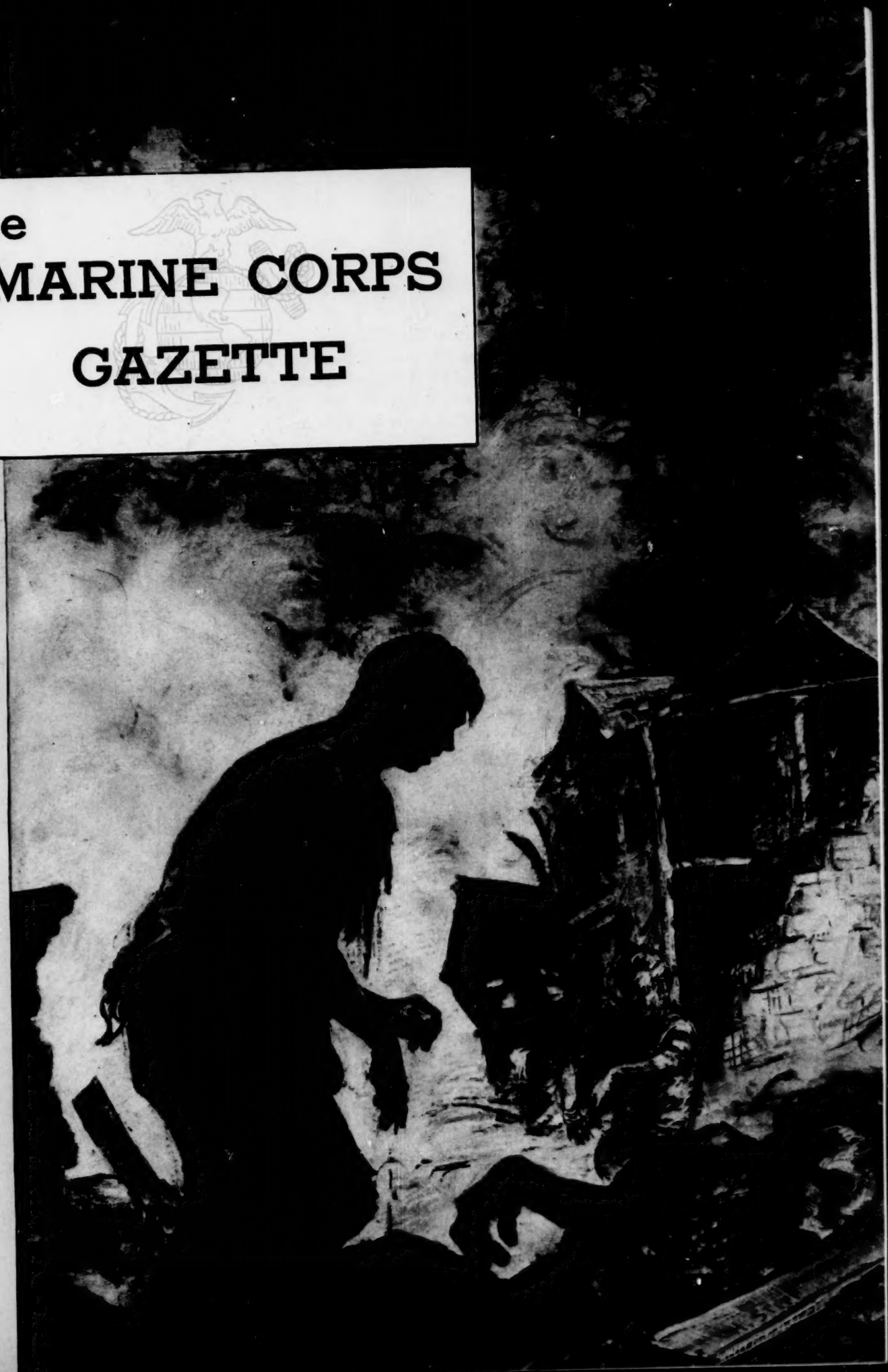
The MARINE CORPS GAZETTE



This Month's Cover

OF ALL THE MAJOR POWERS, only the United States has escaped the awful effects of air attack on its homelands. Such attacks have been predicted for the past twenty years or so. No one will forget the alerts and alarms which followed Pearl Harbor. And no one can seriously doubt that such attacks will be a terribly real part of World War III if it ever has to be fought.

THE MARINE CORPS GAZETTE

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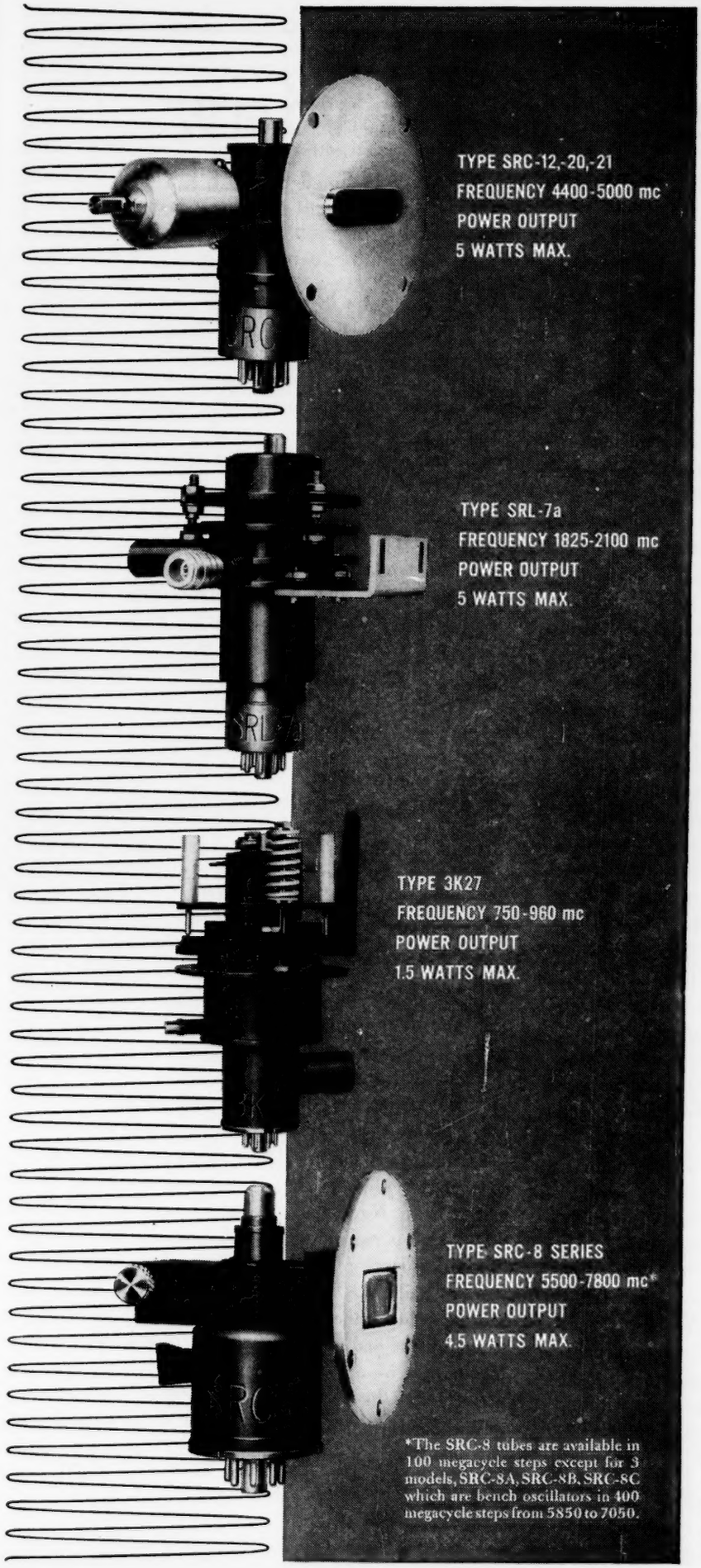
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Passing in Review

BOOKS OF INTEREST TO MARINE READERS

Close-up at Iwo . . .

THE ASSAULT—Allen R. Matthews. 215 pages. New York: Simon and Schuster. $2.50

The replacements the 4th Marine Division received while preparing for Iwo included many very good men. They had come into the war and the Corps about the time of Saipan, after being deferred for age, family, or occupational reasons. Among them was Allen R. Matthews, a 32-year-old Virginia newspaperman who became a rifleman in the 25th Marines. *The Assault* is his straightforward account of his combat experiences on Iwo Jima.

Starting on an LST approaching the target area, Matthews gives a blow-by-blow story as his company moves in to Blue Beach One and heads up the terraces toward the airstrip. From then on till D plus 12 when he was evacuated, the book is a trained reporter's narrative of one rifle squad in combat. It is a subjective version, for Matthews tells only what happened to himself and to the men in the adjoining holes and he includes his physical and mental reactions to amphibious war. But he tells it all in simple, terse prose which must have been written soon after the campaign—before training for the next operation could dull his memories.

The book is a complete success. Bill Mauldin, who made a career of depicting frontline realities in another theater, says in his foreword that the book is good and honest because "the author is not burdened with a Message." Matthews says he wrote it because "I found combat was completely unglamorous, a foul business full of fear, loneliness and misery. . . ." He makes this point plain to even a casual reader.

For rifle veterans who already know about combat's lack of glamour, *The Assault* still has plenty to offer. With little physical description, Matthews creates vividly several company characters, just by recounting their words and deeds. There is Doc Scala, the corpsman who is more Marine than Navy after several landings; Turlo, the hardworking squad leader who wangles his way back to the outfit after being evacuated; the imperturbable gunny sergeant in his fleecelined Navy jacket; the machine-gun platoon leader standing in the open with his hands in his pockets joking with his men—individuals like these were in every company in the FMF.

More than this, the book brings out, perhaps unwittingly, the one thing that compensated for the hardships of combat: the comradeship of men engaged in deadly work together. The simplicity of frontline friendship is apparent as Matthews worries about the welfare of the other men in his squad. The book virtually has a happy ending when he finds several missing mates aboard ship when he is evacuated.

There are other things in the book of interest to the veteran, things he may have forgotten: the sound of the Jap rockets, the taste of water from an expeditionary can, the value of hot coffee, the way tanks draw fire. And more than anything else, the courage of the men who really won the war—the weary, dirty PFCs with the BARs and the M1s, walking forward whenever they got the word. Bill Mauldin has decorated the dust jacket with his version of a couple of them. **LM**

Spanish-American War . . .

ADMIRAL DEWEY AND THE MANILA CAMPAIGN—Comdr Nathan Sargent, USN. 128 pages, illustrated, charts. Washington, D. C.: The Naval Historical Foundation. $3.00

Admiral Dewey and the Manila Campaign, a work which appears almost on the fiftieth anniversary of the Battle of Manila Bay (1 May 1948), could readily have been one of the dullest historical offerings of the year. Most readers are conditioned to be bored or supercilious over the Spanish-American War, just as most of us who survived the recent unpleasantness tend to regard any previous war as anticlimactic and somewhat unimportant.

As it happens, however, *Admiral Dewey and the Manila Campaign* represents a truly exciting discovery in the field of U. S. Naval history, not to speak of foreign relations; what is more, it is a lively, readable and thoroughly vivid account of events which most readers will confess, after all, they do not know with any accuracy. For Marine officers, the book carries a special moral, for it embodies the sad story of a major fleet without a Fleet Marine Force—a Fleet which had to await the uncertain arrival—months late—of an Army expeditionary force.

Without further parley it should be explained that this compact book represents one of those "attic discoveries"

Any book reviewed may be purchased through the Gazette Bookshop.

—a finished manuscript written almost contemporaneously (albeit confidentially) by a protege of Adm Dewey with the Admiral's blessing and oversight—and then lost in the welter of Dewey papers which is still not completely set to rights.

The book's scope is not only the fairly well-known one of Dewey's foresighted preparations for offensive operations, of his bold entrance to Manila Bay and his rather tidy despatch of the decrepit Spanish squadron under poor Adm Montojo (who incidentally sought and obtained Dewey's generous praise—as is shown herein—for evidence before his court-martial in Spain)—rather, by far, the more interesting and revealing part of the book recounts with vigor and color Dewey's difficulties with the powerful and meddlesome German squadron which Kaiser Wilhelm had ordered to Manila to fish in troubled waters. Correspondingly, the friendly and forthright support of Chidester, the senior British officer present, may seem oddly contemporary to those who read of current international frictions from Berlin to Trieste to Athens to Iran.

After the battle, on 1 May 1898, Dewey's situation, between the Spaniards ashore and the Germans afloat, remained precarious, to say the least, until 18 July, which was the time-interval between his signal victory and arrival of the first Army units on the scene.

Much more can be noted with approval. The illustrations, for example, consist principally of newly-discovered battle-photographs—vintage 1898, mind you—of the U. S. squadron firing and being fired upon in action against Montojo. The end-piece charts likewise contribute to the lucidity and simplicity of the narrative.

RDHjr

In the Pacific . . .

THE MARINES' WAR—Fletcher Pratt. 456 pages. Illustrated. New York: William Sloane Associates. $5.00

The Marines' War begins planning for the Guadalcanal operation and carries forward, in generally chronologic fashion, through the Solomons and the Central Pacific fighting, presenting a thoroughly warm and invariably interesting description of the part played by Marine ground forces in the defeat of Japan. Particular stress has been laid on the presentation of the Guadalcanal campaign as well as the operations on Peleliu and Okinawa, with the intervening operations receiving somewhat less detailed treatment.

There is probably some question as to whether the book should properly be classified as a history—except as relates to major event—since there are minor omissions and occasional errors to be found in its content. Like-

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THE
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War

AN ACCOUNT OF THE STRUGGLE FOR THE PACIFIC
FROM BOTH AMERICAN AND JAPANESE SOURCES

By FLETCHER PRATT

TIME MAGAZINE: "Fletcher Pratt, one of the best of the civilian war analysts, wrote this book at the Marine Corps' request, but on three conditions, all granted: that he have full access to official Marine files and captured Japanese records; permission to interview eye-witnesses; complete freedom of opinion. The result is a fine service history written with clarity and intelligence, one that many Marines will welcome as an authoritative corrective to their own unit histories . . . Author Pratt has told the Marines' story so simply and graphically that civilian readers will share the feel of battle, and so soundly that the book could serve as a text on amphibious warfare."

ATLANTIC MONTHLY: "It is the best report on the island warfare in the Pacific which has appeared to date . . . Mr. Pratt is an eminent student of his subject and he is also in the highest brackets of the historian-journalists. In fact, as a craftsman-like narrative, few if any of the preceding unofficial volumes produced by World War II are in the same class as THE MARINES' WAR."

With maps, $5.00

WILLIAM SLOANE ASSOCIATES
119 West 57 Street, New York 19

wise, there will be question as to the propriety of the title —though that is of little real significance. Nevertheless it is actually far less an account of *The Marines' War* than it is a clear and logical exposition of *The Navy's War*. It is, in fact, in this latter area that the volume finds its greatest strength. In effect, Mr Pratt has employed the Fleet Marine Force as a well-suited backdrop against which to illustrate the thoroughly naval character of the entire Pacific conflict. His account stresses the utter necessity for the maintenance within an offensive fleet of a significant landing force, prepared to seize and defend those bases which are so essential to the conduct of a naval campaign.

This theme underlies the entire volume, despite the fact that the over-all subject matter deals with Marine divisions or battalions or squads. Mr Pratt has accurately illustrated that the demand for Guadalcanal was entirely naval, and further that the keynote to the success of that attack lay in the degree of support that the Fleet could provide. He presents facts to support the thesis that the conduct of the Marianas campaign under overall naval command was an essential; that it resulted in effective operations against both the enemy fleet and the enemy forces ashore with a judicious distribution of our over-all offensive means that could not otherwise have been achieved, as for example, under the situation of divided responsibility at Leyte Gulf.

The whole of the book is rendered more interesting and more valuable in its projection against a background of Japanese plans, reflections, and philosophy. Each major subdivision of the presentation is accompanied by an evaluation of the problem through the eyes of the enemy commanders who were actually involved. This unique approach bespeaks comprehensive research on the part of the author, and, in addition to constituting an interesting insight into the Japanese character, gives strong evidence of the weaknesses which existed in American intelligence gathering and evaluation.

For the volume to be fully responsive to its name, it would probably be necessary for the author to have begun the treatment some twenty-five years earlier, when *The Marines' War* actually began—with their early and painstaking explorations into the amphibious problem. This thought, touched on only lightly by Mr Pratt, actually is the keystone to the series of successes which he so clearly describes.

Nevertheless, while there is every reason to believe that books will be written which develop in more historical detail the Marines' part in winning World War II, Mr Pratt's product will stand the test of time in its clear and forceful exposition of the application of seapower in a maritime war.

VHK

THE MARINE CORPS
THE PROFESSIONAL MAGAZINE
FOR UNITED STATES MARINES

GAZETTE

MARCH 1948

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THE FIRST ISLAND COMMANDER ..... IV COVER

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This Month and Next

WE REGRET exceedingly that *Scientific Advances and Future Wars* does not appear in this issue as planned. The article, written by Britain's distinguished soldier-writer, MAJGEN J. F. C. FULLER, had to be withdrawn. A very high level echelon decided that Gen Fuller's views were a bit too strong for public airing at this time.

ANOTHER FINE CONTRIBUTION from England will appear in the April issue. LTCOL ALFRED H. BURNE, author of several widely-acclaimed military books, discusses the Pacific War as it relates to global strategy.

NEXT MONTH Base Plate McGurk returns. His April effort is entitled The Defense Rests and is dedicated to the premise that a training problem in the defense is not necessarily limited to "walk out, dig in, fill up, and go home." With a little ingenuity defense problems can be made just as interesting as problems in the attack.

FLETCHER PRATT leaves Iwo Jima with the Island Commander and moves in on the final phase of his assault on the Japanese Empire. *The Marines in the Pacific War* brush off the Kamikaze and go to work on Okinawa.

Concerning "Target Eurasia"

By LtCol Frederick P. Henderson

IT IS A NATIONAL CHARACTERISTIC OF AMERICANS that we seek to find the easy way to do anything, whether it be irksome drudgery in the home, hard labor, the production of goods, or the winning of a war.

Our efforts in the first three fields listed have resulted in making us the mightiest industrial nation in the world with the world's highest standard of living for our people. Our efforts in finding the easy way to win a war have yet to meet with success. Our latest fiasco in this field was the military school of thought which held that the machine, which solved all problems in the home, business and industry would be the *deus ex machina* of the military also. Solidly backed by public opinion, this group asserted that glamorous, highly skilled warriors riding in machines (planes and tanks), with a few dirty old infantrymen trudging along behind to corral prisoners and garrison conquered territory, would win wars easily, quickly and with little loss of American life. This beautiful dream was shattered worse than Humpty-Dumpty in every theater in which we fought.

The December GAZETTE's article, *Target Eurasia and the Next War*, presented what was described an "alluring" concept of the easy way to win what would be the most stupendous of all wars, World War III.

As "alluring" is synonymous with ensnare, decoy, seduce and lure, it might be well, therefore, to examine this latest scheme (aside from those of the air-power-push-button-atomic-bomb sects) advocated for winning a war by legerdemain.

Before we can examine the military solution advanced in that article we must first properly present the geo-political problem which will face us in that war. National strategy today must be guided by considerations of geo-politics in all its ramifications. Military or naval strategy has become the instrument of geo-political strategy in the same manner that tactics is the tool of military and naval strategy.

Britain's Sir Halford Mackinder, the father of modern geo-politics, divided the world into three great geo-political sections, the World Island, the Offshore Islands and the Outlying Islands. He further divided the World Island, the dominating land mass of the earth, into the Heartland and the Coastlands. Although some of Mackinder's theories, outlined in 1904 and fully presented in 1911, are disputed by other geo-politicians, his division of the world into geo-political entities is still accepted today.

Professor Nicholas John Spykman of Yale University, one of America's leading geo-politicians, amplifies Mackinder's division of the World Island in a manner particularly well suited for our purposes. In terms of geo-political realities he says that the World Island is divided as follows: the heartland, the encircling buffer zone (Mackinder's Coastlands), the marginal seas, and the outlying continents of Africa and Australia.[1]

To understand the military significance of this geo-political division of the world we must apply to it the four fundamental components of geo-political power, Space, Population, Economy, and Government (Organization and Ideology).

The requisites for any nation or geo-political region to have a high military potential may be summed up as follows: a great space, richly endowed with natural resources, possessing fertile soil, a temperate climate and good natural routes of communication; well populated by healthy, energetic, intelligent inhabitants; possessing a highly productive economy (the result of Population acting on Space) that can support a major war without the services of all of the population; and a government whose organization and ideology are such that it achieves the most efficient direction of the national or regional energies and inspires the population with the will and determination to achieve their goal. A nation's or region's rating in the scale of world powers is determined by the extent to which it possesses the above potentials of power.

The geo-politician's conclusions as to relative military potential of the world's regions is contained in the third of Mackinder's three propositions that. "Who rules the World Island rules the world."

THE WORLD ISLAND possesses two-thirds of the world's land. It is independent of the rest of the world in strategic materials although the rest of the world is dependent upon it. (As Prof Spykman points out, any power ruling the World Island would not need to invade the Western Hemisphere, it could bend us to its will by economic blockade through embargo.) It can feed itself and has the requisite natural land, water and air routes of communication. It has fourteen-sixteenths of the

[1]The marginal seas are described as the circumferential maritime highway of the world and include the North Sea, Baltic Sea, Mediterranean Sea, Red Sea, Indian Ocean, the South and East China Seas, Sea of Japan and Sea of Okhotsk.

Any power ruling the World Island could bend the United States to its will by economic blockade through embargo. The Island can feed itself, has the necessary sea, land, and air routes of communications, and has a tremendous military potential

world's population, sufficient to man its economy, provide armed forces of gigantic size and have a huge population reserve left over. It has the greatest industrial potential in the world. Although there may be disaffected (subjugated) minorities, the government that dominates the World Island will certainly be dynamic and well organized as attested by its dominance.

Thus we find that our target now is not limited to Eurasia alone, but is the whole World Island. (Africa having no military potential of its own, falls natural and easy prey to the power that controls Eurasia, and is necessary to that power's continued rule). If we are ever faced with the truly colossal task of conquering the World Island we must know what part of it must be our objective.

The most disputed of Mackinder's propositions was the second which stated, "Who rules the Heartland commands the World Island." At the present time Prof Spykman is probably more nearly correct in his contention that the power that rules the Coastland (his encircling buffer zone) commands the World Island.

The Heartland, which lies within the U.S.S.R. does not yet possess all of the previously discussed geo-political potentials of military power. However, the overrunning of most of European Russia by the Germans gave a tremendous impetus to the development of this potentially powerful area. The ultimate realization of this potentiality may well give the Heartland the key position that Mackinder assigned it. Prof Spykman asserts that it is capable of developing military power strong enough to support one of the great war machines of the twentieth century.

If the Coastland commands the Heartland, is there some part of the Coastland that plays the dominant role? It does not require a geo-politician to look at the map and determine that Europe is the primary source of military potential for the Coastlands. Europe, without Russian Europe, contains 2,000,000 square miles of territory and 400,000,00 population. Spykman says that Europe is, "The real heart of the transatlantic world and the source of its economic, military and political power—the greatest power potential in the world, and the region from which both Africa and the Near East will inevitably be controlled." Mackinder's first proposition stated, "Who rules East Europe commands the Heartland."

It seems evident therefore, that at the present time Europe is still the key to commanding the World Island and thereby the world. If our target is the World Island, the bull's eye must be Europe. Europe is that part of the World Island most capable of destroying us. It must, therefore, be destroyed, neutralized—or preferably, occupied without extensive destruction in order that it may be added to our own power potential in defeating the rest of the World Island. The latter course is mandatory if we must advance into a fully developed Heartland and not suffer the fate of Napoleon and Hitler.

THE MILITARY PROBLEM presented in a war with a power or concert of powers dominating the World Island may be stated as follows: "How can we successfully engage a self sufficient enemy who has vast space, seven times the population of all the rest of the world combined, who can equal or outstrip us in the production of the necessary materiel for war, and who lies beyond protecting oceans?" Some geo-politicians say that the problem is insuperable unless we have at least one ally remaining in Europe. To maintain this indispensable ally we resorted to Lend-Lease prior to our entry into World War II and are now adopting the Marshall Plan with the fervent hope that it may prevent a future war.

What roles will sea power, land power, and air power (the latter as yet only vaguely defined) play in a war between the United States and the World Island? Mackinder taught that only land power could conquer and rule the World Island. It appears obvious that neither seapower nor airpower, alone, or in conjunction, could defeat the World Island.

Seapower must, however, isolate the World Island, seize bases on the Offshore Islands, and place the invading land forces ashore on the World Island. Air power, of course, is inherent in balanced sea power. The role of land air power in the near future will remain auxiliary, although important, to ground operations as it was in World War II. Technological advances in aviation may give it a more important role in the not too distant future. At that time its value in attacking and invading the remote distances of the Heartland either from Offshore Island bases or directly over the Polar cap are apparent.

The relative importance of the various forms of military power will vary in different periods of the war. Thus we find that balanced sea power will dominate the initial stages of the war followed by the supremacy of land power when we commit our armies to the land mass of the World Island.

With these fundamental geo-political facts of a war

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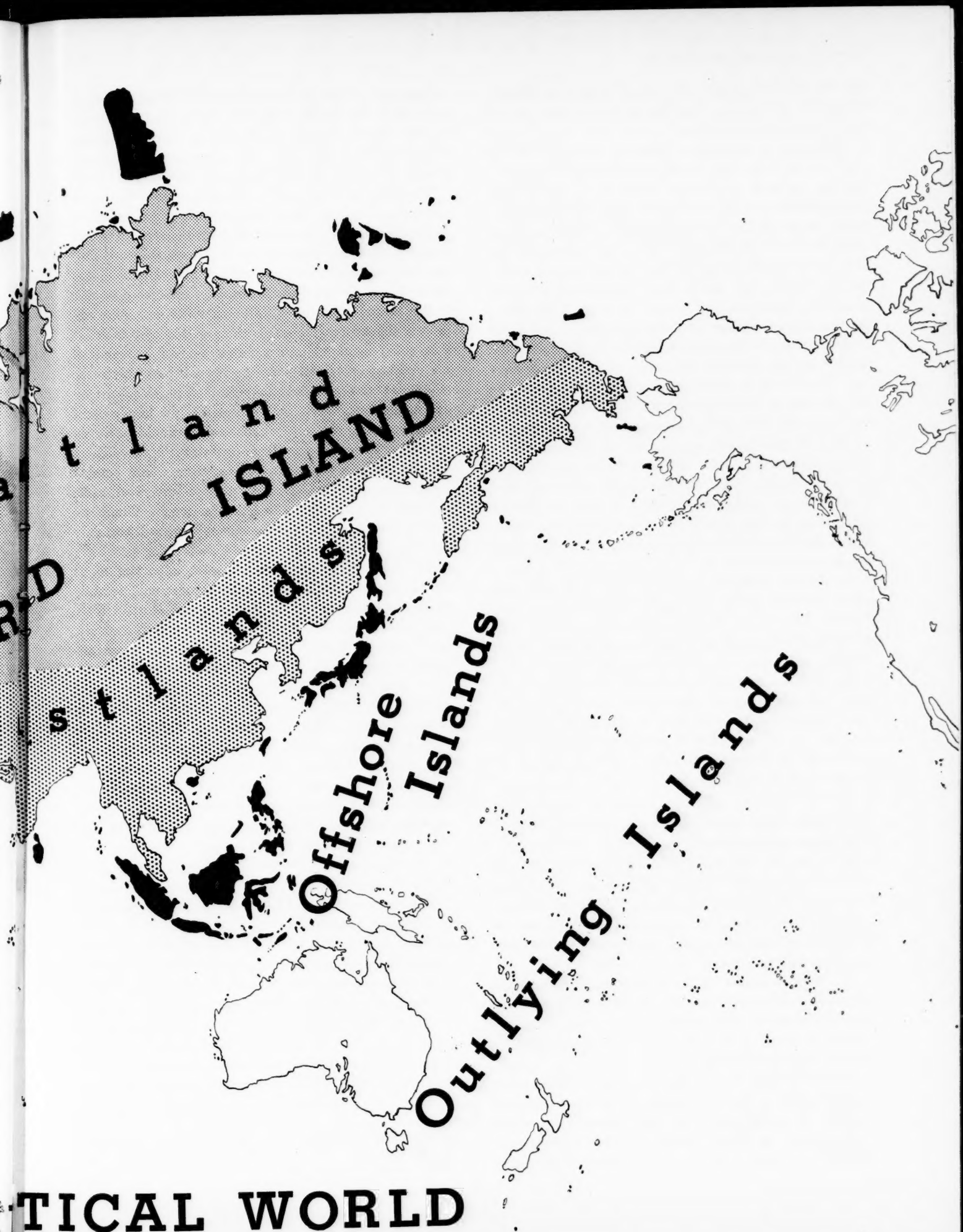


TICAL WORLD

between the hemispheres in mind, does the solution offered in the GAZETTE's article lead not to victory but in all probability to defeat?

That solution was predicated on the fact that, whereas neither Europe nor Asia is entirely surrounded by water, Eurasia is, with a coastline eight times that of the United States and therefore extremely vulnerable to surprise amphibious attack. The military course of action prescribed for the United States was "hundreds" of landings and *withdrawals* by "amphibious combat teams" to "sap the strength of Eurasia's ground forces on the perimeter of Eurasia" by destroying them "piecemeal"; to wreak great damage to "ports, depots, plants, roads and railroads." These operations would be successful, it was argued, because we would have a larger navy and air force than the Eurasian enemy and because we would certainly have superiority of force at the points of landings and withdrawals. We could select our points of attack and get in and get out before he could move troops up to the point of attack in sufficient number to crush our landing force with a superior force of ground troops. To provide bases for these mobile amphibious striking forces and their supporting air cover we would first seize the Offshore Islands (called the Periphery Islands in the article).

To determine the feasibility of conducting this type of hit-and-run war let us examine the vast coastline of Eurasia itself to see how much of it offers possibilities for remunerative landing operations of the type recommended.

We first find that much of it is the Arctic Coast from the North Cape of Norway to the East Cape of the Chukotski Peninsula of Siberia. The frozen Arctic Ocean and the barren, unpopulated, non-productive land fronting on it obviously bar this coast as a theatre of extensive amphibious operations.

GOING SOUTH from the East Cape to Singapore, we find unlimited possibilities for landings, but no objectives that would seriously cripple the military potential of the World Island short of a full scale invasion to separate from it some major portion of its military potential. The space and population of China, or the resources and production of an industrialized Manchuria might be such objectives.

The southern coast of Asia, fronting on the Indian Ocean from Singapore to the Gulf of Aden has a military similarity to the eastern coast of Asia discussed above. If anything, its overall military potential at the present time is even less.

The coastline from the Gulf of Aden to Gibraltar is not accessible to our seapower by reason of the enemy's control of African Mediterranean littoral and of the entrances to the Mediterranean Sea and Red Sea. In World War II it took a major military effort merely to prevent Germany from gaining this control. To wrest it from an enemy who already had it, and thus open up the southern coast of Europe to our amphibious forces, would require an even greater effort, probably too great to be worth the benefit to be derived.

Thus, the only part of the Eurasian coastline that is either open to us or offers suitable targets is the familiar portion that extends from Gibraltar to the North Cape of Norway. For centuries it has remained the target of invasions and seapower because it has offered the quickest access to the world's greatest source of military potential.

The enemy ruling the World Island would quite obviously defend only those portions of his vast coastline that either contain or offer access to vital elements of his military potential—and he would have both the manpower and resources to defend such places in redoubtable strength. Thus, we find that the hundreds of landings by amphibious combat teams would probably be either barren of results or disastrous to us. There will be thousands of miles of coastline where combat teams may land at will, but without any worthwhile military or geo-political objective in reach. Where we *must* land to gain some decisive result, we will certainly not find a pushover defense.

The defenses of that coastline most important to us and the enemy, the European Atlantic coast, will certainly equal or exceed in strength the Germans' Atlantic Wall. Yet, to gain a small foothold on that coast in Normandy, on 6 June 1944, required six infantry and three airborne divisions with overwhelming naval and air support. A steady build-up of force was required to expand and hold the original beachhead, so that by the time the breakout began on 26 July there were 39 allied divisions present, plus tremendous logistic supporting forces and unrivalled air support. Opposing them at this time, in all Western Europe were only about 65 divisions (many of them second-class) of a worn and punished enemy who was hard pressed on two other fighting fronts and in keeping conquered nations subdued. The future for combat team landings looks as dim as it proved to be in World War II.

The damage that combat team landings could do to the military potential of the World Island would be exceedingly minute. An examination of the maps of the World Island in any modern geography shows that very little of its sources of industrial, mineral, or agricultural military potential lie within combat team operating radius of the shoreline.[2] To reach major industrial centers such as the Ruhr involves a full-scale land campaign. Important seaports, the only certain objectives along a coastline will probably require costly siege operations to take—as we found in France in 1944.

[2]An outstanding source of geographic reference material may be found in *An Atlas of Global Geography* by Erwin Raisz, Harper Bros.

We probably could destroy "inferior detachments piecemeal" as a way to weaken the Eurasian armies—but a war waged upon such a campaign of attrition would soon bring home to us the meaning of Pyrrhic victories. The ultimate conclusion of such a military policy would be mighty armies still guarding the World Island when our last man had fallen on some remote beach.

Whether we could build and man a large enough navy to make hundreds of these combat team landings against opposition is doubtful. It is interesting to note that from 7 August 1942 (Guadalcanal) to 1 July 1945 (Balikpapan) the Allies made only 53 amphibious landings against the Axis powers. Included in these figures are each separate landing of a complex campaign such as New Georgia, the Philippines, New Guinea, etc. The operations range in size from the 2d Marine Raider Battalion raid on Makin Island to the Tenth Army assault on Okinawa. If our stupendous war production program and our thorough exploitation of the strategic mobility of seapower could support only 53 landings in almost three years what would it take to support *hundreds* of landings? An argument that the reduced size of the landing force as compared to World War II operations makes a much larger number of operations possible is not true. The protective and supporting air and naval forces required to land a combat team on the fortified coast of Europe would be all out of proportion to the size of the landing force involved and results to be achieved.[3]

In recommending the kind of a war we should fight (and thereby the nature of the forces to fight it) the author follows in the footsteps of many post-World War I military writers. The mass armies of that war led to a predominance of stalemate, and brute force to break it, over the military's long-treasured icons of finesse and maneuver. To restore the classical patterns of strategy and tactics to warfare, there were military writers and thinkers in all countries who preached the superiority of the small, professional, highly-mobile army over the mass national army.

Outstanding among these advocates was Gen (then Capt) Charles de Gaulle. In his book, *The Army of the Future* published in 1934, he brilliantly prophesied the pattern and employment of armored forces in future warfare. But in his fervent advocacy of their role, he lost his perspective and concluded that they offered the means of replacing the mass army with the professional army. For France, he concluded that, "Six divisions of the line completely motorized and 'caterpillared' and partly armored, will constitute an army sufficient for carrying through a campaign.—This mechanized system of fire, of shock, of speed, and of camouflage, needs, for its operation, 10,000 men."

In the United States, Maj George Fielding Eliot advocated a similar small professional and mobile army in the widely-read, and accepted, *The Ramparts We Watch*, published in 1938. Eliot concluded his study of our national defense requirements with the concept that we needed . . . "a small highly trained professional army for the defense of our country and its possessions." Its size, he said, should be about 160,000 men for continental and advanced base defense with a mobile striking force of 150,000 to 200,000 men.

World War II should have proved beyond all doubt that total war between great powers, fought on a global scale and requiring the conquest and occupation of vast spaces, requires mass armies, which inevitably must collide in battle. Total mobilization of the World Island would result in an army of monstrous size. We could not hope to raise an army of similar size, but neither could we expect to bring the monster to defeat by sending gnats to buzz about its vast bulk attempting to penetrate its thick skin. The death blow must be dealt to a vital spot by a force of sufficient power to decisively defeat the enemy at that place.

Overriding the many specific tactical defects in the recommended plan is its failure to observe two principles of war that are of supreme importance in the conduct of war against an adversary who controls the World Island. These are the Principle of Economy of Force and the Principle of the Objective.

If the dread day ever comes when we must match our own great war potential against the even greater war potential of the World Island we must realize from the outset that we will be forced to fight an 'austerity' war. Many of the services, comforts and equipment that we became accustomed to in World War II, and accepted as necessities, must be recognized as luxuries and abandoned. From the strategic and tactical point of view, not a man, ship or plane must be committed to action if that action does not contribute directly to our successful reaching of our objective. This conservation of manpower and resources is utterly essential if we are to adhere to the Principle of Mass and be able to concentrate superior force in every form when we do strike for our objective.

And it must never be forgotten that our objective, now, and for some years to come is not the remote fastness of the Heartland, nor the jungles, deserts and mountains of Africa and the Asiatic coastlands, but Europe—the seat of the World Island's ability to wage a successful war against us. US MC

[3]The article states that the "antidote" to the projected plan of operations against Eurasia is an "Eurasian navy and air force able to cope with the invaders within a very short time after the landing." It then goes on to say that "Such a navy, such an air force, are not in existence." Yet only recently the Chief of Staff of the U. S. Air Force testified that one of the Eurasian powers alone, Russia, now has more first line planes than the United States.

Amphibious Armor

By Maj Angus M. Fraser

THE RECENTLY CONCLUDED EXERCISE SEMINOLE, conducted in the Gulf of Mexico, raises a number of questions and focuses attention on a number of problems which should be of considerable interest to officers of the Marine Corps. As the custodian of troop amphibious doctrine, and as the agency having the facilities necessary for improvements and extensions in such doctrine, the Corps should weigh carefully lessons learned in Seminole.

Current publications cover in admirable fashion the planning technique for landing assault infantry and supporting its operations ashore. However, the landing of armor to be used as armor (as distinguished from the armor employed as organic support in infantry divisions) poses a series of new problems which must be approached with a fresh outlook. It is not difficult to visualize future landing operations on a scale dwarfing those we knew in the last war. Landings on a front as wide as that of an army group are not inconceivable. The necessity for careful integration of amphibious infantry and armor, and close coordination of effort between these elements and air, is obvious. One or more armored divisions might be most profitably employed in a large-scale assault. Such units could be held afloat, well dispersed to seaward of transport areas, and landed with the mission of breaking out through a discovered soft spot in the beachhead and striking at a key objective some distance beyond the zone of infantry operations. The feasibility of supporting such efforts by airborne troops and air supply, or the use of armored elements to reinforce or relieve airborne and parachute infantry should be the subject of careful study. This paper is offered in an attempt to state some of the problems of amphibious armor, and not to present solutions.

Armor as such requires special attention when establishing the missions of the various elements in a large force. While one of its missions is to support infantry in making a break-through, most experienced armored officers feel that their equipment is better employed when it can break out of a position independently and find the large areas best suited to exploitation by far ranging, hard-striking operations. First among our considerations then is the establishment of missions which will take advantage of the favorable characteristics of armor. When uniform, heavy resistance across the entire front may be expected, it must be assumed that no "soft spot" for armored break-out will be discovered; hence, early landing of armor, ready for combat, is not too vital. However, such a situation over a very wide front is not too likely. In any event, assembly and maneuver room, plus a reasonable chance for a successful break-out, must be considered.

The command relationships to be established for such a venture must be carefully studied. The size of an armored division indicates that it must be transported and landed by a naval force similar to the transport group as we now know it. The armored division should, however, be directly subordinate to the commander, expeditionary troops, as a separate landing force, rather than be part of a balanced landing force. In this fashion, we can insure the landing and employment of armor at the proper place and in a manner best suited to furthering the overall mission. During the seaborne phase, the armored landing force must of course enter the command picture as part of a naval element, but the passage of command and control ashore should coincide with the landing of the armored unit commander, since in all probability that transition on a higher level will already have taken place. Failure to provide this would create an anomalous situation in which a tactical element of expeditionary troops was under naval control while the

MAJ ANGUS M. FRASER came to the conclusions expressed in this article while assisting in the amphibious training last fall of the Army's Combat Command "A," 2d Armored Division. At present the assistant G-4, TTU, Amphibious Force, Atlantic Fleet, Maj Fraser served overseas first on Samoa, later as S-3 and battalion commander with the 29th Marines at Okinawa.

An M26 tank grinds ashore during Exercise Seminole. Waterproofing techniques are constantly being studied and revised. The successful landing of amphibious armor depends on their efficacy.

senior troop echelon was not.

Assuming the presence of one or more armored divisions afloat, ready to land and break out of any of several division or corps beachheads, it is apparent that early shore party planning must make careful provisions for the expeditious landing of armor. Since the landing of a force as large as an army group may not envision the establishment of a continuous beachhead line, each shore party whose beach may be used by armor must be prepared to serve and support it. It is not suggested that this is sufficient reason for altering our basic concept of the shore party as an organic division agency, but early planning must establish priorities of work and service in such fashion that an armored division landing on D plus one day, for example, may be assured adequate landing points, agress routes, roadways, and assembly areas. This must be accomplished without jeopardizing the logistic situation of the infantry elements already landed. Close supervision of shore party planning on the expeditionary troop level is suggested as one solution. At this level it should be possible to establish workable policies and implement them by careful distribution of special equipment and material.

EARLY INTELLIGENCE planning must consider the peculiar needs of heavy armored equipment. Requests for reconnaissance missions should include those points of particular interest to armor, including of course, roadways and bridges. Since the effectiveness of armor in such an operation would be increased by concealing its presence until the last possible moment, studies should be made to establish assembly areas which combine good underfooting with ample natural concealment. Geological studies, based on military geological maps, might indicate that certain areas were unsuitable for tank operations. In this event, the commander would have to take positive action and create, at usable points, the opportunity for his armored break out, rather than let the developing defensive situation indicate the area for him. Intelligence must also be prepared to furnish deeper aerial reconnaissance and photographs; map supply plans must include the scales and coverages required by armor.

Operational planning in the infantry divisions must foresee the situation which would be created by landing armored units shortly after D-day. Congestion of vital areas, special provisions at selected break-out points, and coordination of support must be considered.

The war's closing operations and postwar maneuvers indicate that future landings may be made on fronts as wide as an army group. These enlarged beachheads allow room for maneuvers; armored units will be assigned increasingly important roles

An M37 105mm gun carrier lends its weight to a simulated combat landing. Landing plans must have the greatest possible flexibility in order to meet the demands of a changing tactical situation.

Naval gunfire may be able, for a varying period, to support the armored effort. Armored unit planning must insure that personnel are properly indoctrinated in gunfire techniques and characteristics. The assignment of liaison officers and spotting teams for short-term missions must be considered in conjunction with the units furnishing such personnel. It might be desirable to use armored artillery personnel, especially trained, for all spotting and liaison tasks. Prior gunfire planning could establish the general framework, with details of fires for specific missions arranged as the unit moves into its assembly areas for the break-out.

Air support for armor is well established in principle but joint planning and training will be necessary to insure efficient functioning of carrier-based air in this mission. Again, the advisability of using trained personnel from the armored unit as tactical air control parties must be considered.

Landing plans for armored units to be used in early break-out must establish a system which possesses great flexibility and allows rapid landing of combat elements. A changing tactical situation could have considerable influence on the order of landing within the armored combat command, task force, or division. Inherently, the armored division is capable of swift changes in task organization to meet any given situation. Special landing instructions must not inhibit this characteristic. Experience in Exercise Seminole indicates that the method now used for landing assault infantry division support and reserve elements, implemented by a carefully worked out serial list, can be depended upon to effect rapid landing. Tentative priorities are desirable, but no party to the landing should be allowed to consider them as inflexible.

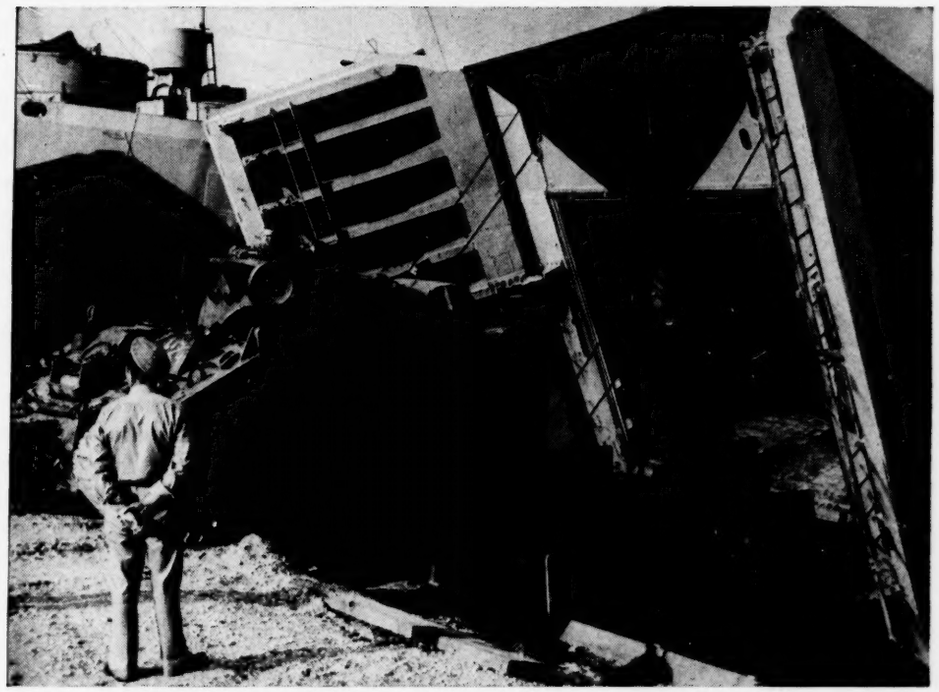
Prior to the armored landing, provisions must be made to land reconnaissance, artillery survey, and billeting parties. These agencies must be given reasonable latitude in their movements and have transportation necessary to accomplish their several missions and meet incoming units.

Insofar as possible, armored forces should land and assemble under strict radio silence, lifting such silence only at the last possible moment. This is most desirable from the security standpoint, but it is readily seen that new problems of control are generated. Pre-planning and the use of circuits and calls not belonging to the armored unit may serve as partial solutions. In Exercise Seminole, a special shore party net, with armored unit representatives on the beach and control vessel, handled all troop traffic incident to the ship-to-shore movement. The normal shore party liaison telephone circuit was adequate for necessary traffic between the beach and the unit command post inland.

The combat supply doctrine of armor may be somewhat over-simplified by the statement "if it doesn't roll, don't take it." In essence, however, this statement is not too inaccurate. Basic combat supply is carried in the vehicles when they enter combat. Resupply is usually accomplished by trains operating under control of the

combat command S-4. This plan is admirably suited to initial entry into combat, but when ranging beyond a beachhead, resupply can become a serious problem. For short periods, air supply may offer at least a partial solution.

The loading of armor presents a series of interesting problems. While landing ship types are of course greatly preferred, consideration must be given to the fact that the exact types and numbers desired may not always be available. Some units within the armored division may efficiently be transported in APAs or AKAs. The maintenance of tactical integrity and insurance of flexibility in landing will require transport quartermaster work of high quality in all echelons.



A tank recovery vehicle rolls onto the beach. Once bogged down, armor is extremely vulnerable to counteraction. Mobility must be maintained.

In connection with loading, a number of minor problems confront us. Embarkation plans must be prepared in great detail. Special equipment, loading points, traffic control, dunnage and chocking, and ship movements all require detailed attention. Stowage factors and total tonnage must constantly be kept in mind, because weight and deck space factors come into new relationships when handling armor exclusively.

A close study of the medical requirements of armored units in amphibious operations is indicated. The organic medical service of the armored division is not readily adaptable to the requirements of beachhead and shore-to-ship evacuation. The casualty potential of the armored unit cannot easily be superimposed on the work-load of assault infantry medical facilities. Augmentation of normal services and coordinated planning on top levels are a necessity.

Waterproofing plays a large role in the success of any landing. Naturally, the entire outcome of an armored venture may hinge upon the successful employment of deep-water fording material and techniques. The entire waterproofing field should be open to continuous study and revision. Simplified techniques for application and removal of waterproofing are most desirable. Flotation for tanks, allowing the landing of single vehicles, is a partial solution. The techniques employed by the Navy in preparing vessels for reserve fleet service offer some interesting possibilities for the protection of wheeled and tracked equipment.

As LtCol Frederick P. Henderson pointed out in a recent GAZETTE article, the VT fuze is here to stay. The implication of this fuze in defence against landings, pointed out by LtCol Henderson, forces us to consider not only radical changes in our present landing craft, but may also result in considerably greater emphasis on the use of armor as protection against such a defense. Once the beach area is cleared of antitank defenses, the bulk of the landing force might well come ashore protected by armored vehicles.

Close liaison between all services is a "must" if we are to enter a possible future conflict in the best possible state of preparedness. To cite one example, it was noted during the loading out for Seminole that obstructions in the tank-deck overhead of some LSTs made difficult the economical loading of medium tanks fitted with recently developed waterproofing equipment. Up to the minute information is required in each service if it is to operate efficiently with another. Design and project information should be exchanged at the earliest possible moment.

Again it must be stated that this paper does not present even a major portion of the problems incident to the early landing of armor; neither is it planned to offer solutions. Its primary purpose is to present to experienced officers of the Marine Corps an outline of some of the problems which may well arise in the planning and execution of amphibious operations when armor is employed as one of the major assaulting arms.

US MC

Why Not DUKWs?

By LtCol Lewis C. Hudson, Jr.

SINCE THE END OF WORLD WAR II, THERE HAVE been four major training exercises in landing operations, two on the coast of southern California, one on the Gulf, and one on the coast of Culebra, all conducted under the auspices of the Atlantic and Pacific Amphibious Training Commands. All have been considered successful exercises, and the personnel involved undoubtedly received much valuable training: yet experienced observers of these landings have come away from the scene with the same general train of thoughts. Speaking amphibiously, how far, if at all, have we progressed since the end of World War II? What new techniques are we developing? Or have we developed any at all? Will we begin the next war with the same equipment and doctrine that we had at the end of the last one? Why don't we make more experiments now?

At present, it would appear that the answers to these questions leave much to be desired: we have done little, since the Okinawa landing, except to consolidate lessons learned throughout the Pacific campaign; our techniques are those which we know would have worked against enemies now conquered; and as for equipment, we hear that new landing vehicles and related paraphernalia are in the process of design but are, apparently, far from the practical stage. So what to do? Why not play around with the stuff we actually have on hand—do something, at any rate, to make our present techniques more plausible in the face of the portents of future war.

We might improve our methods in more than one way, but I propose here to confine the discussion to one specific problem. This is the problem of building up supplies ashore. Since the public was invited and witnessed two of the landing which were mentioned above, no security provision is being violated when we describe what was observed. In both cases, on the first day, the landings began at about 0900 and the scheduled waves came in with almost perfect timing. The beaches were seized, the tactical part was carried out beautifully. But what happened after the boats went back for a second load, consisting largely of vehicles and supplies, and then returned to land them? In each instance the ocean from about one thousand yards on out became congested with landing craft, waiting to be unloaded. And this continued for hours. Cranes were set up ashore at the beach and in the dumps (in one instance of far greater density than we used commonly in the war) and boats were unloaded, slowly, by mechanized means, while hundreds of craft waited and waited. And here no actual enemy opposed us. Why should we keep the ships waiting so long to be unloaded? Do we not agree that we have to move fast and be dispersed in an "Atomic Age"? What are we doing to bring this about?

Those observers who witnessed the landings on the beaches of California were given a clue. They all saw a comparatively small number of DUKWs come in through the surf, pass through all the waiting landing craft, pass across the beach where cranes and trucks were laboring, pass through all this without stopping for anyone, pass to the artillery positions and there deposit their loads on the firing sites. Then they saw these DUKWs return to the ships, receive net-loads of supplies, and again make their trips to the beaches, deposit supplies in dumps provided and set forth on repeated performances. The show was excellent; DUKWs in column under command of a platoon or company commander, each carrying out the mission assigned. There was no fuss, no delay, and there was *dispersion* because no beach line held them up. My personal estimate was that each DUKW could make seven or eight trips to each trip made by an LCVP. And the saving in materials, handling equipment, and manpower was something to ponder. (Have you ever figured out how many cranes are required to unload boats as soon as they can be landed; thus matching the ship's unloading capacity? The extra shipping required to transport this?)

IF THE ABOVE observation points toward the need for more DUKWs, how are they to be made available? Hauled in on more LSTs, LSDs or what? One answer would be to place these DUKWs on board the APAs and AKAs at every spot where there is now an LCVP (excepting four LCVPs for ship and other use). This proposal is not new—during the war it was kicked around in Amphibious Forces, Pacific, for months. But it should be reexamined. Obvious initial disagreements will occur

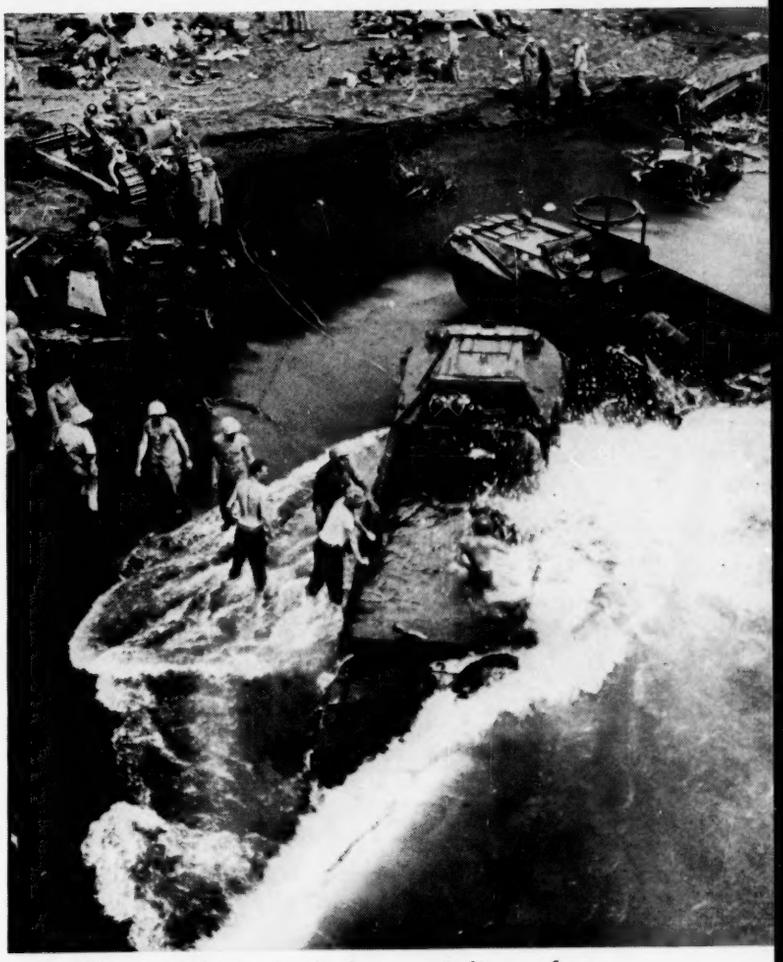
at once: (a) We shouldn't land assault troops in DUKWs. (b) DUKWs can't discharge vehicles. (c) DUKWs aren't fast enough. (d) Who will man the DUKWs? And there are more.

Now if we examine these in detail we find there are no disadvantages that will not be offset greatly by advantages. Let us examine the four points raised above. (a) Assault troops will not land in DUKWs. The assault waves of BLTs will land in LVTs just as we desire at present. DUKWs can take care of the remainder as readily as can ship's boats. (b) Vehicles will be brought ashore in LCMs, LCTs and LSTs, as they are at present. (c) Speed is desirable but not essential in follow-up waves. (What good is it for a boat to speed up to the vicinity of the beach and there wait hours to be unloaded?) (d) DUKWs predesignated to remain ashore will be manned by landing force personnel, those remaining with the ship will be manned by Navy personnel. Sailors, soldiers or marines can drive the DUKW equally well.

As opposed to the above aspects which would require adjustments, we have two which show distinct gains. (1) Avoidance of congestion of boats off shore and of material and personnel along the beach. (2) Speedier unloading of ships and build-up of supplies ashore. It is submitted that these two points have plagued us for years and that right now we have the answer for them if we choose to experiment along this line. We do not have to wait for hours while preparations are being made on the beach. We can begin unloading as soon as exits from the beach are prepared.

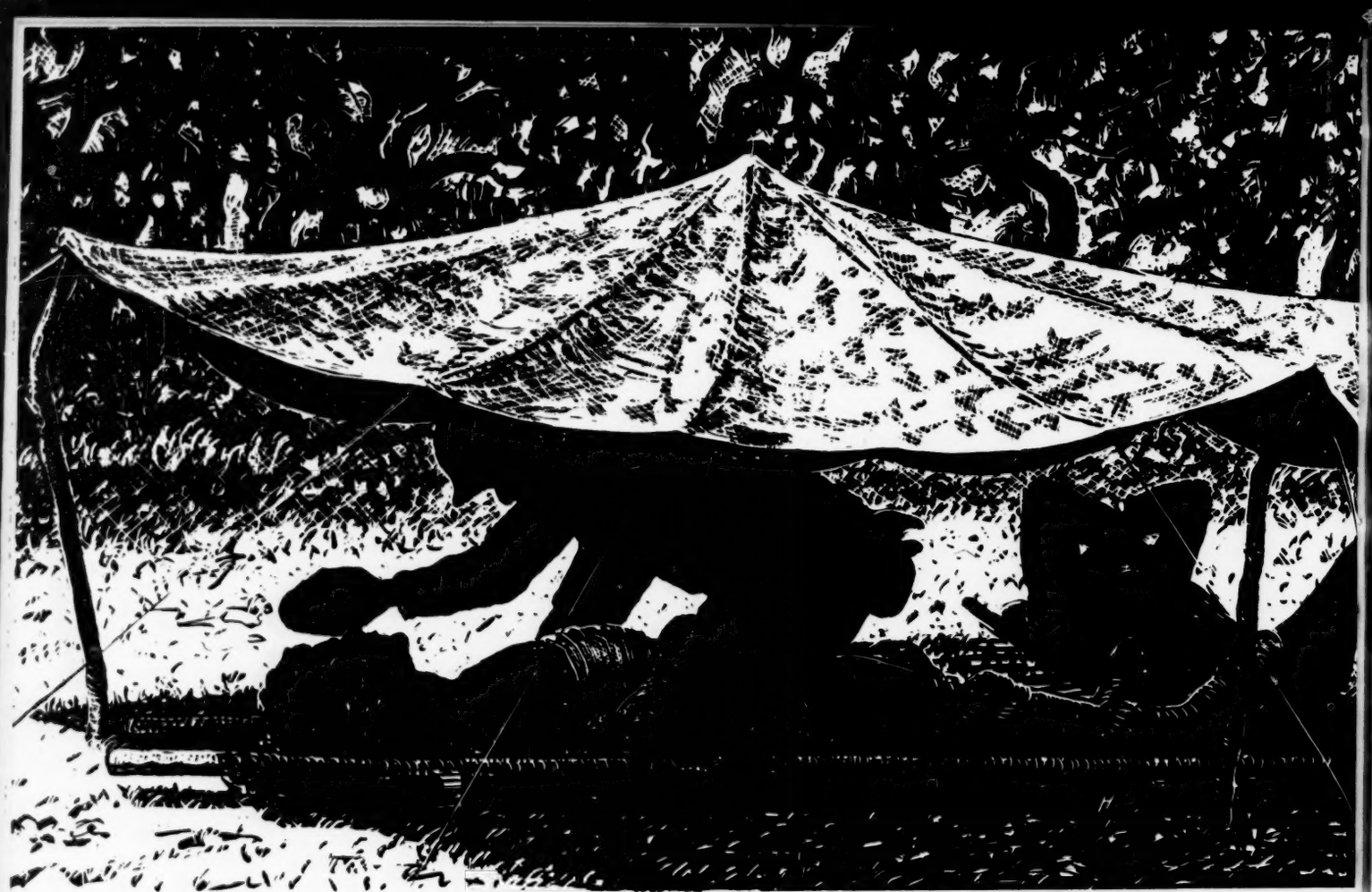
ONE LAST OBJECTION should be examined. It has been stated that DUKWs can't land and function everywhere. Two instances are set forth most commonly: Bougainville and Iwo Jima. It is true that DUKWs could not function in the morass at Bougainville, only LVTs could be used. But were boats any better? DUKWs could accomplish as much as did they. And as for Iwo Jima, it is submitted that DUKWs did function there. They functioned when they were loaded correctly and the correct amount of air was left in the tires. Aside from this, they also functioned, even when tires were inflated incorrectly, on beach matting when it was laid where it should have been. (We shall still need dozers and beach matting for vehicles on almost all landings). Against these two examples, weigh the advantages gained, or that could have been gained in all the other landings of the Pacific and in Europe and North Africa.

The proof of the pudding is in the eating. The value of DUKWs is in their performance at every landing where we use them. If we want dispersion, if we want simplicity, if we want a saving in manpower at the beach line, this is a development which we should exploit to the fullest. And so, *why not DUKWs?* US MC



DUKWs fared better in the heavy, grinding surf at Iwo Jima than most of the landing craft in use.

Evacuation of wounded men at Iwo Jima was quickly accomplished by the use of the amphibious DUKW.



". . . That afternoon Millsaps had worked among the wounded and heard them cry for water. Among them were a number of men suffering from chest wounds and others who had stomach wounds. . ."

Affair at Hill 30

By Col S. L. A. Marshall

ON THE THIRD MORNING—D PLUS TWO—A PATROL from the force in Chef du Pont came over the causeway, found it relatively free of resistance, and reported to LtCol J. B. Shanley's position on Hill 30. But the event which should have cheered him, instead raised his wrath. For the patrol had come through Shanley's own roadblocks without being challenged.

He ran down the Hill to the highway to see what was wrong, and at once found that his instructions as to the organization of the position had been ignored. About 50 men had been assigned to this task of protecting the base of Hill 30 and stopping the east-west movement of German forces along the main highway. He had told them to set up two minefields (they had found some enemy mines) so as to cover the approaches to the causeway from both sides of Hill 30. The force was then to be disposed on the most suitable central ground between the two blocks, acting as an "island of resistance" from which automatic fire could cover the blocks in both directions.

Instead, they were wide-scattered and without mutual support or central organization. Such were the dispositions that a German force coming from the causeway would have knifed the position in half and taken both halves in rear. Shanley therefore set about reorganizing the position and he gave detailed instructions on how to move the men and establish the fire power on the central ground. After seeing them well started, he walked back up the hill. While he was still climbing, and before the roadblock group could dig in along the new ground, an enemy attack mounted by approximately one infantry company came down the hedgerows paralleling the road from the west. The fire caught the roadblock crews just at the moment of dissolution, the heavy weapons being on the move from the old positions to the new. Shanley heard the sounds of the fight just as he reached Hill 30's defensive perimeter and he realized that because of the orders which he had just given the roadblock group was

Part II: The Germans caught the Americans in the act of reorganizing their roadblocks. Heavy mortar fire ranged all over their position and forced the men to return to the main body. The Germans pressed their advantage with new vigor

probably caught flat-footed. He called to Warren and they rallied a platoon on the hilltop and charged southward down the hill, figuring that they would move in on the left of the advancing enemy line.

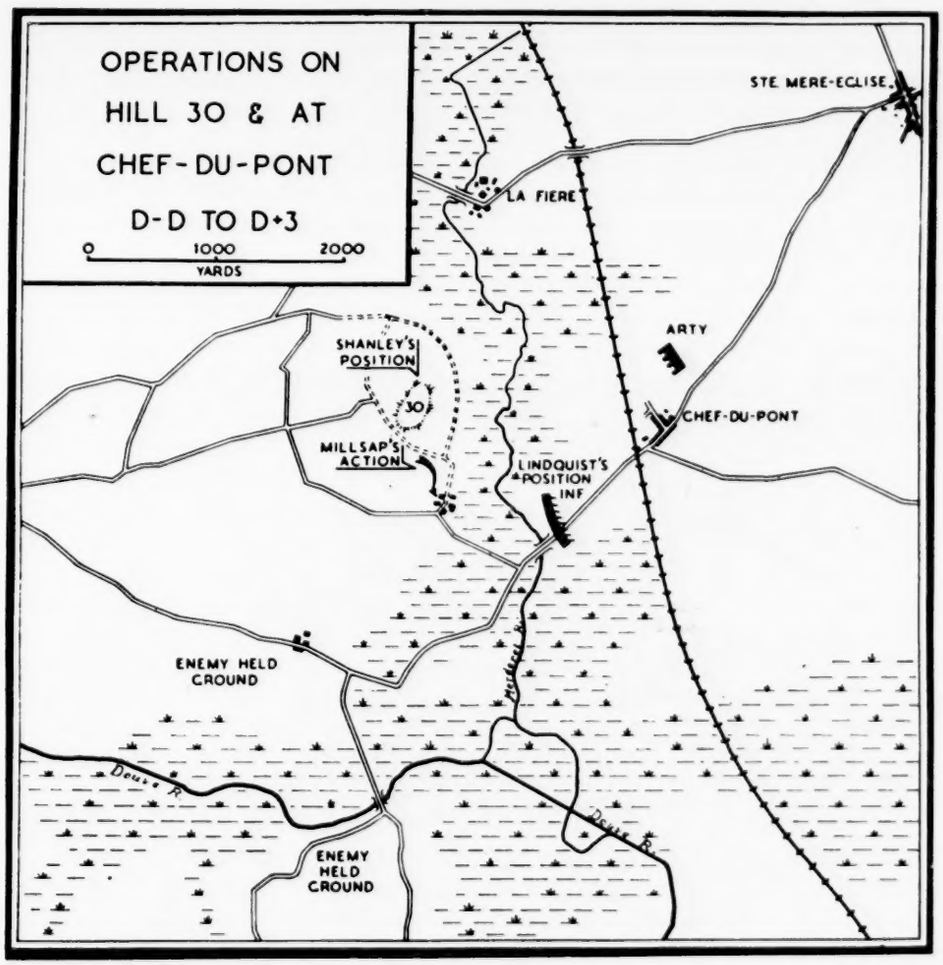
So it was done. But no sooner had this enfilade begun to sway the enemy attack and bend it backward than Shanley's men heard the familiar sound of American rifle and machine gun fire grazing the ground on which they were fighting. There was a gap of about 300 yards between the roadblock men and the flanking platoon. The former couldn't see what was happening and Shanley had failed to advise them by runner of his intentions. They were firing toward the sounds of the fire.

Taking one man with him, Shanley crawled back along the hedgerows to the roadblock group, thinking that with a slight change in the direction of their fire, he could still get the best of it. But that chance had already passed. The men were huddled against the embankments. Heavy mortar fires were ranging all over the position from batteries located somewhere on the peninsula of solid ground about Montessy, thus taking in flank an untrenched position already under fire from the front. A number of men were hit while he considered his situation. He ordered the roadblock platoon to withdraw to Hill 30. He then worked west along the hedgerows again, intending to lift the flanking platoon from its predicament. It was in his mind that the hill position was strong enough that he would still be able to counterattack these enemy forces if the right hour arrived. He saw no advantage in wasting men's lives to defend ground which tactically meant very little at the time.

But he could not find the platoon which he had left with Warren and without wasting time in search for them, he returned to Hill 30 and the main body. There he found that Warren had already brought the platoon back. Warren's estimate of the situation had coincided with Shanley's and had been further stimulated by the fact that the mortar fire had begun to fall among his men.

The Germans moved in and occupied the ground around the farm at the base of the hill. There was nothing that Shanley could do about that for the time being. All along he had searched for mortars, and had failed to find even one tube. With mortars he could have made the lower ground untenable. His bullet-firing weapons were invalidated by the surrounding hedgerows.

TACTICALLY, THE SITUATION on the hill was now quite simple. The position was wholly surrounded and in a state of siege. Pressure against the OPLR had mounted throughout the day and the attack was pressed with especial vigor from out of the northwest, following



the enemy success against the roadblock to the southeast. The ridge line of which Hill 30 is a part extends in that direction and the enemy mortar batteries were working from a level almost as high as the hill. The worst execution by this fire was among men who had already been removed to the first-aid station for lesser wounds. The men on the outpost line could see groups of the enemy, as many as a platoon in a group, moving not more than a field beyond their own lines and trying steadily to advance their own fire positions along the cover of the hedgerows. But while the line took a beating, and the losses from close-up small arms fire rose until every fifth man was either dead or nursing a wound, the line did not bend. Giving partial encouragement to it, seven 75mm M3 guns from the 319th Field Artillery Battalion were providing it periodic support from Chef du Pont on the other side of the river.

Otherwise the situation was fully desperate. The position had neither food nor medicines, save such as are provided in a first-aid kit. What hurt worst was the lack of plasma. Men were dying whose lives could have been saved. The other men knew it and that demoralized them more than all else. They begged the commanders to do something about it. But Shanley reckoned that the time for sending out search patrols was past and that he had no choice now but to wait it out. His own discomfiture, and the morale of the defenders, were made the worse by the fact that three-fourths of the men on the hill were strangers who had just happened into his command because of the bad drop. His own men were taking it in stride but he sensed that the majority was emotionally beaten.

That night Lindquist radioed Shanley that he was sending a convoy across the causeway to relieve Hill 30. However, first there was the detail of Shanley eliminating the Germans who held the position at the base of the hill. Lt Woodrow Millsaps volunteered for the task, saying that he would be glad to leave the hill. That afternoon Millsaps had been working among the wounded and had heard them cry for water. Among them were a number of men suffering from chest wounds and others who had been hit in the stomach. Shanley had ordered that under no circumstances should they be given water; he thought that the effect might be fatal. But their crying got Millsaps down, and while no one was watching, he divided what water was left in his canteen among the men who seemed to be suffering worst, consoling himself with the thought that they were going to die anyway. Whether the act had pricked his conscience, or he was sweating emotionally because of the inaction, there is at least his own explanation that he wanted to fight his way out because he was convinced that the Hill 30 force was spent and that the only chance for it was to open a line of communications to the east bank.

But he stuck on one point. He said to Warren: "I want my own men. I know by now that I can't control strangers." The argument was lost when a survey showed there weren't enough men from Company B present with

The 319th Field Artillery Battalion gave the besieged troops encouragement with periodic fire. Shown here is the causeway from Chef Du Pont side. Arrows indicate Merderet Bridge and Hill 30.

weapons and ammunition to compose a squad. So he started out with a scratch force of 23 men picked up from around the perimeter, 2dLt Lloyd L. Polette, Jr., second in command.

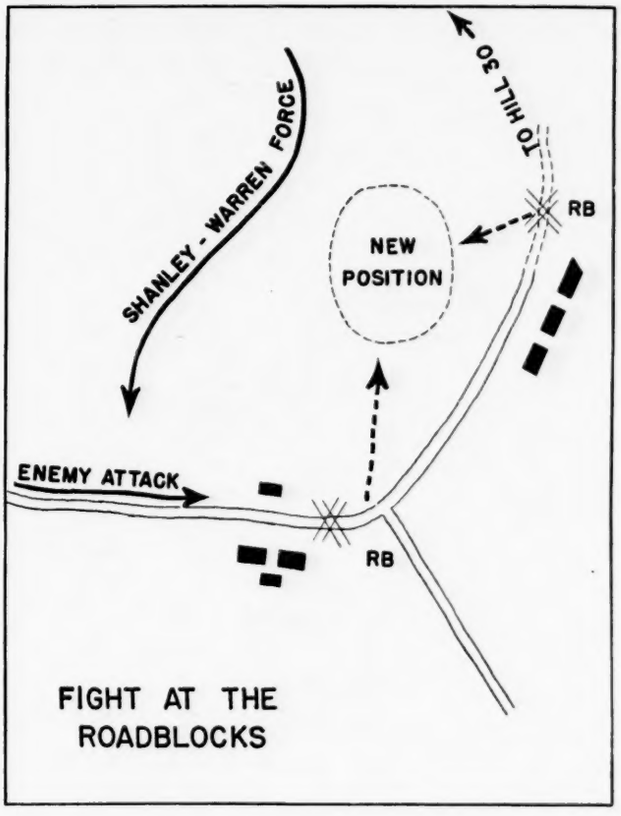
IT WAS ABOUT MIDNIGHT when they left the hill. The arrangements were that they would proceed slowly and carefully toward the position at the base. At 0230 they were supposed to be closed up on it. The seven guns in Chef du Pont would drop 24 rounds on it. When the last round was fired, they would take it in a rush.

At 0230 the patrol was set and waiting. Three rounds of artillery fell squarely on the German position. Then the fire suddenly lifted and switched to the island in the center of the marsh. This unexpected transfer nonplussed Millsaps. He waited for the fire to switch back. Nothing happened. Meanwhile the men were growing restive. When at last the fire against the island died, Millsaps realized that the artillery was through for the night. So he moved on down the road with his men, Polette leading, and himself about two-thirds way back in the column. He knew that if he ordered them to rush now, the enemy would be set and his own men wouldn't respond.

They had gone perhaps 50 yards when a machine gun opened fire on them from directly ahead along the road. The front half of the column broke and "ran like dogs." Millsaps saw them coming. He made a flying reach for one man and nailed him. He was a sergeant. Millsaps said to him: "Goddamit, what are you doing?" and the man replied: "We're getting away from that fire." Millsaps said: "Goddamit, you've got a job to do even if there is fire. Go and collect those men!" He grabbed other men and yelled at them: "Goddamit, stop!" The sergeant had steadied and was now helping Millsaps check the flight. As for Polette, he had stood firm on the forward ground, and the three men closest to him were sticking also. These four now came on back to assist Millsaps in getting the stragglers rounded up and started again.

There had been some scattering rifle fire and a showing of flares from the ground ahead. The road along which the patrol had come from Hill 30 branched right and left where the ground flattened out. The fire had come at them from the lefthand road. In the fork of the road —the immediate foreground—there was an apple orchard to a depth of about 150 feet, and beyond the orchard, a solid cluster of French farmhouses.

Millsaps decided to move his men around to the right and advance through the orchard toward the houses. There was a solid bank of earth running around the orchard, but no hedgerow. It took him about 30 minutes to swing the men around to the right, where they formed a semi-circular line, conforming to the shape of the em-

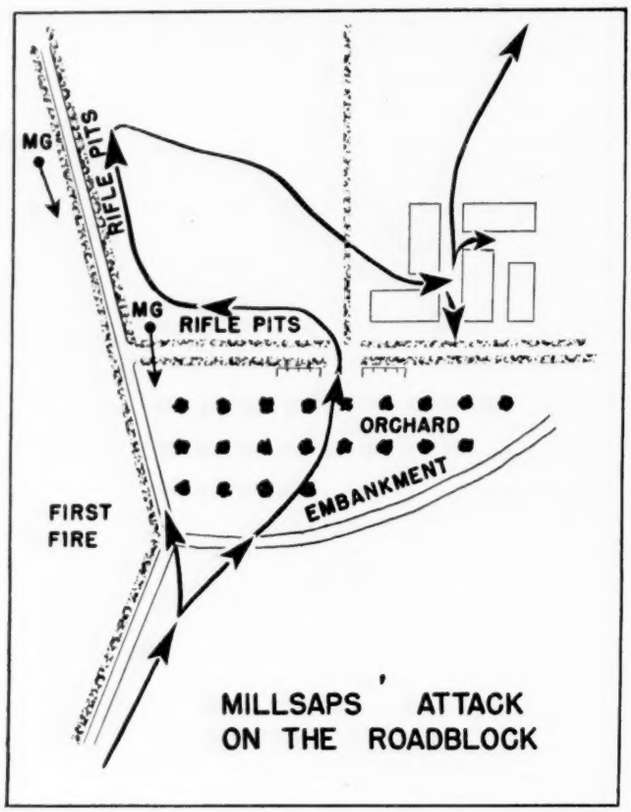


FIGHT AT THE ROADBLOCKS

bankment. During this time, the enemy fire had increased. There were now three machine guns and they were all firing a great deal of tracer. Also, they had increased the use of flares and the whole scene was continuously illuminated. The enemy positions did not seem to be organized around any central base of fire but were scattered rather loosely along the hedgerows separating the houses from the orchard and covering a little side path which ran between them. Such was the light and such the noise that Millsaps could see that the conditions were working on the nerves of his men, most of whom were engaging in a close-up fire fight for the first time.

Millsaps passed the word down the line: "Keep moving till we close on them. Hold your fire till I give the word." They went on through the orchard, moving right along until they reached the boundary hedgerow on the far side. This part of the approach caught the enemy unaware. The men were at the hedgerow embankment before a voice, not 20 yards in front of Millsaps, shouted a challenge in German. He fired at the sound with his M1. His men had hit the ground immediately and were firing forward with all weapons. Several were carrying tommy guns. To Millsaps it seemed that the volume of fire built up in a flash second was tremendous. But getting the men to rise and go forward was another matter. They hugged earth. No matter how Millsaps cursed and begged them, they wouldn't budge.

He was acutely aware that if he could not get his



men back on their feet he was lost. The enemy would come forward and build up fire frontally along the next hedgerow, or perhaps cut his line of retreat. Already he was drawing machine pistol fire from his left rear. So he arose, and walking forward a few yards through a gap in the hedge, yelled for the others to follow. They stayed right where they were. He crawled back to them, going from man to man and saying: "Goddamit, what's the matter with you? Are you afraid." Not a man would admit he was afraid, but each offered some excuse or another: he had been reloading his weapon, or bandaging a wounded man or doing something else that tied him to the ground. Millsaps knew they were lying, because he felt great fear himself. Then Polette came to his aid and the younger man seemed to get better results. Together they bullied and prodded the men for 20 minutes. Then suddenly the dam broke.

The men were all up at once and going through the hedgerow gap at a bound. Such of the enemy as had come up to the next hedgerow either fled or were killed on the spot. Ignoring the buildings on the right, Millsaps' men swung left and back to the road. Flares made the scene bright as day. Enemy riflemen jumped from their fox holes alongside the hedgerows and tried to flee. They were tommy-gunned in their tracks. After emptying a Schmeisser into their ranks, Millsaps picked up an M1 from a sergeant who had suddenly gone limp in front of him, and continued to fire.

A few of the enemy had held their ground. Concussion and white phosphorus grenades fell among the attackers. Some were killed. Others were wounded. But those who remained on their feet seemed oblivious to all danger. They paid no heed to the men who went down. Millsaps was knocked down three times by grenades exploding next to him. But he remained unwounded and the concussion didn't jar him. He saw some of his men stop long enough to shake phosphorus pellets from their clothing and then run on again. When the last German along the road was dead, they swung back to the houses. A thin line of rifle and machine pistol men was still defending there from behind the hedgerow. Millsaps' men charged through the gaps in the row, killing all who still held their ground. Then they went on through the barns where they killed the sheep and cattle. It seemed to Millsaps that they had all become victims of mass hypnosis and that they were acting like men under a spell.

The firing died when there was nothing left to kill. Millsaps outposted the farm area; he thought there was a chance that other enemy forces might press in from the west. By this time his force was cut in half and he needed every hand. One badly wounded man was ordered to help outpost the road. He said: "I can't, lieutenant. I'm dying." Millsaps said: "I know you're dying, but Goddamit, I'm dying, too. Go cover the road!" He knew he was becoming hysterical because he found it difficult to think and talk clearly. The other men were equally over-wrought. They could see numerous dead lying about, but in the bad light they could not tell which were their own and which the enemy. Nor did they try to find out.

Telling Polette to stay and hold the position even if it cost the last man, Millsaps asked for volunteers to cross the causeway with him. Only one man responded. He asked again, but the men remained silent. So he started with his own man, Sgt William Kleinfelter of Company B. A few hundred yards down the causeway, they blundered into a German. Millsaps bayoneted him. Twice more they met enemy soldiers. Millsaps killed them. He felt that he could not afford to encumber himself with prisoners.

During these killings, Kleinfelter had lagged behind, and Millsaps resented it. Finally he said to him: "What's wrong with you? Can't you keep up?" Kleinfelter said: "I think I'm shot." Millsaps removed Kleinfelter's jump jacket then and looked him over. There were six bullet holes through his left arm and shoulder. By the time he had completed his examination Kleinfelter was so weak that he could scarcely rise. Millsaps had to carry most of his weight till they got to the American outpost line on the far side of the Merderet, where he dropped the wounded man, and then went on, looking for Lindquist.

During this passage the causeway had been getting a

The Germans dropped concussion and white phosphorous grenades among the attackers. Some were killed, some wounded. The others stopped long enough to shake off the pellets and ran on.

considerable mortar and artillery fire from south of the Douve. The commander on the east bank, taking a dim view of this resistance, decided that it would be too costly to send a truck column across the causeway, and so advised Shanley. As dawn neared, Shanley decided to withdraw Polette and the men who were holding the west end of the road. Again his decision was based on the principle that it would probably save the lives of a certain number of men. The recall had taken effect at just about the time Millsaps reached the opposite shore. His description of the desperate condition of the Hill 30 force and of his easy experience in crossing the causeway so persuaded the Chef du Pont commander that he called Shanley by radio and told him that he was readying the convoy to move west. But Polette's men had already moved up the hill, and with the light well up, Shanley was afraid that if he tried to advance in force toward the farmhouses again, he would bring on a fresh engagement. He asked that the convoy not be sent. A little later he sent a patrol to Chef du Pont. Wading the marsh to north of the causeway, it returned with a supply of blood plasma, thus easing the main problem of Hill 30 prior to the arrival of the relieving force. This exploit showed that the enemy was no longer in position to interdict the valley with small arms fire.

On the following day, Lindquist put another battalion of 508th across the river and established it in Shanley's right, thus relieving the position. Thereon the enemy forces which had been crowding Hill 30 faded back. The whole situation along the Merderet had changed by this time. With both the Chef du Pont and La Fiere crossings passing into American hands, the Germans on the west bank between these two bridgeheads came into full jeopardy. They took it on the run, abandoning four infantry howitzers with their prime movers, and 12 machine guns among other weapons, along the ground where they had confronted Shanley just to the north of Hill 30.

In the beginning, it was said that the battalion achieved nothing great. That was the view taken of its contribution at the time, largely because it had become isolated, because it couldn't join up with the others and because its relief became their problem.

But in view of the large strategic consequence of its effort and of the clear decisions of the commander which never deviated from the line most likely to produce the grand result, it would seem to be a fair question: Was it not a lodestar pulling the larger bodies on? USMC

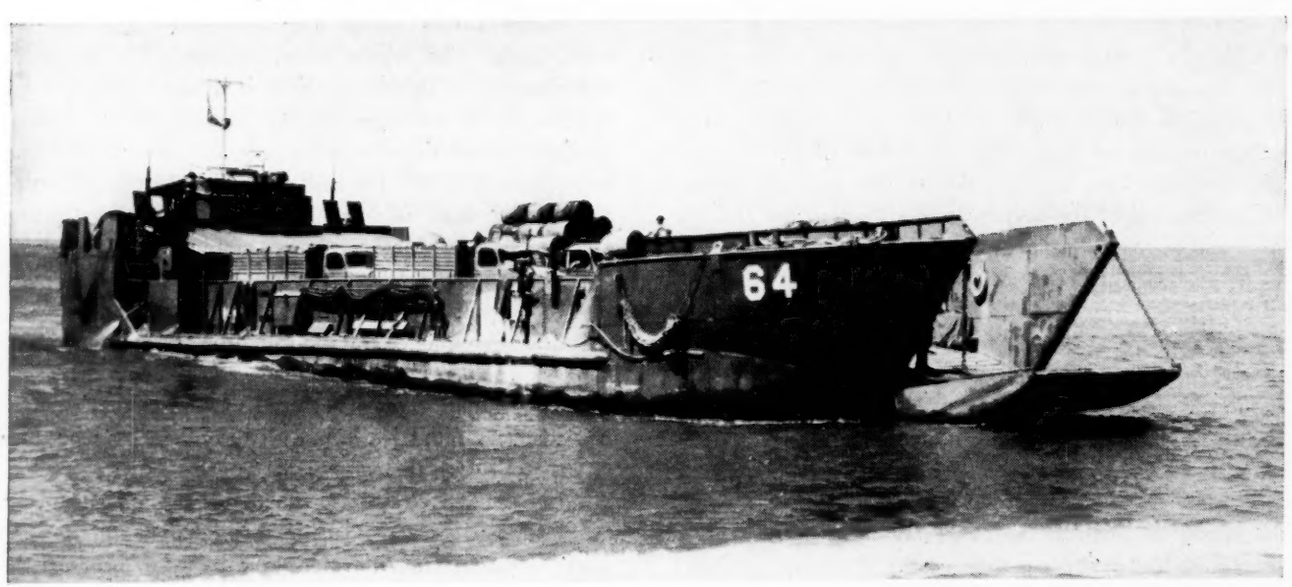
How Well Do You Know Your Landing Craft?

1. .....

IT IS reasonable to suppose that every marine has at least a passing acquaintance with landing craft. Therefore, you should have no difficulty identifying the ten common types presented here. For purposes of this quiz all vessels and vehicles capable of being beached are classified under the generic term "landing craft." You should be able to tag them with either their proper name or letter designation. We'll allow half credit for nicknames. After checking your answers with ours on page —you can establish your standing according to the rating scale below.

Expert	**9 or better**
Sharpshooter	**8**
Marksman	**7**
Tyro	**6**
Dub	**5 or less**

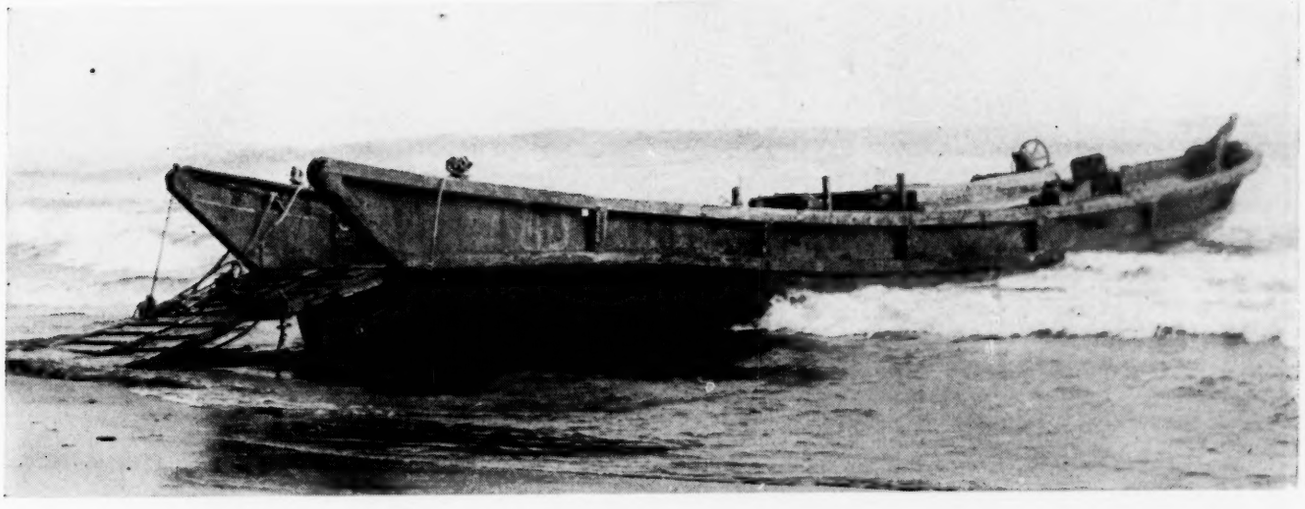
(See page 30 for answers)



2. .....

3. _____

4. _____



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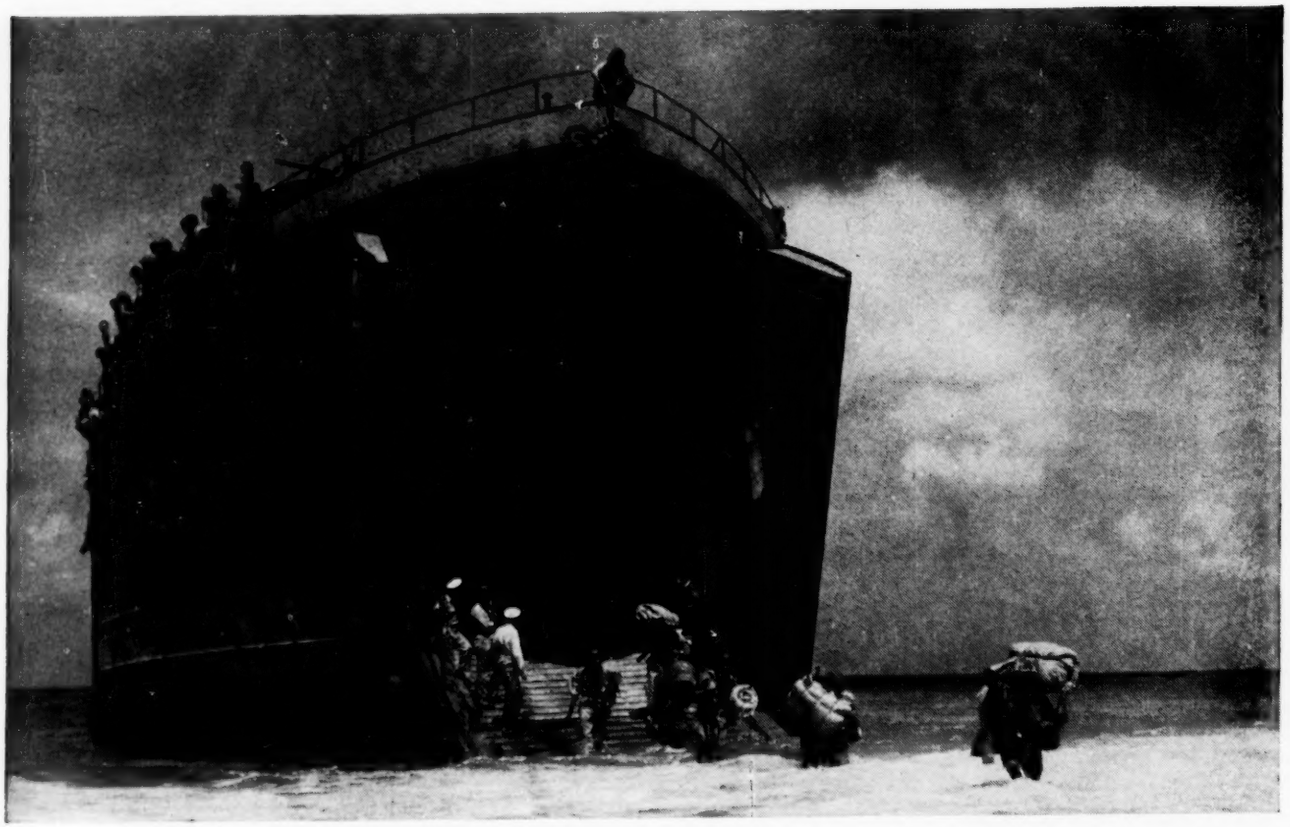

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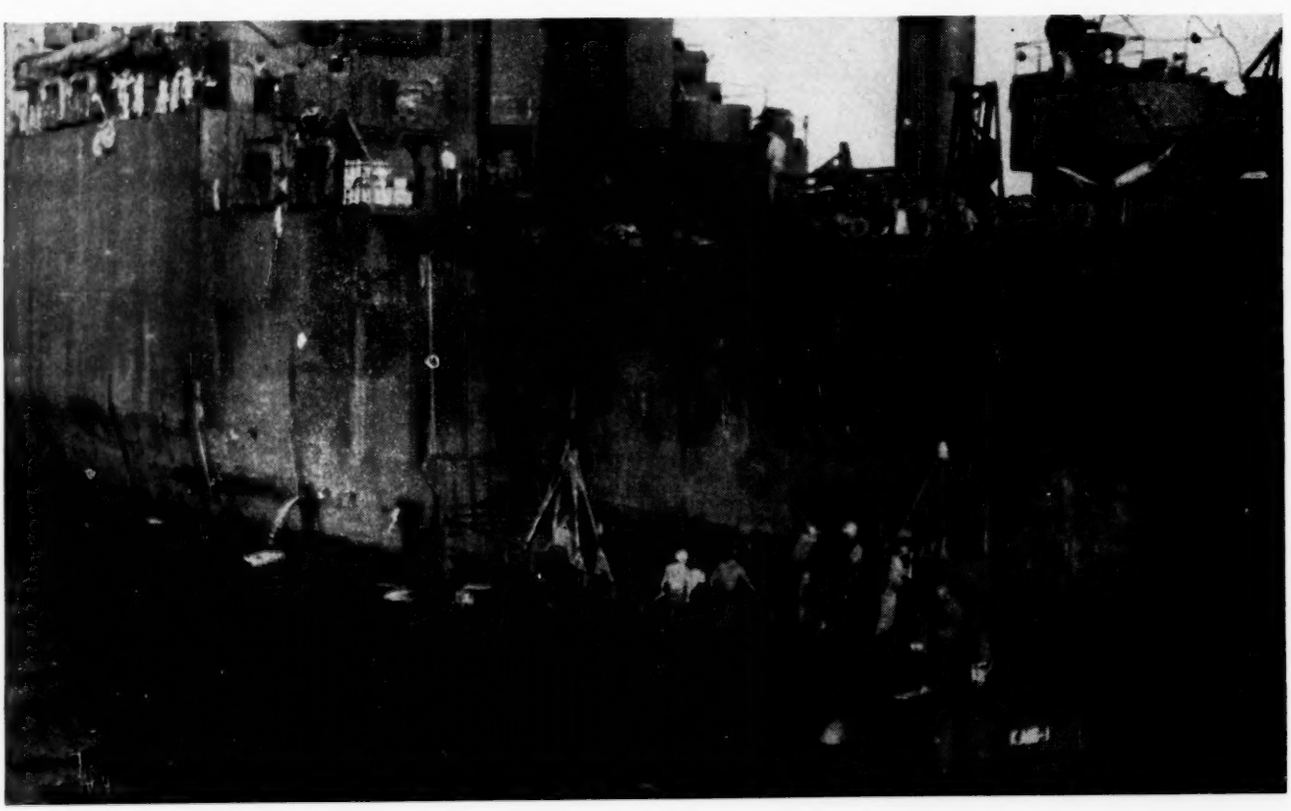


7.

8. .....

9. .....

10. .....

Answers to "How Well Do You

1. **LVT(2)**

Landing Vehicle, Tracked (Mark 2)
"Amphtrac" or "Amtrack"

Length	26 feet 1 inch
Width	10 feet 8 inches
Height	8 feet 1 inch
Weight	25,200 pounds (unloaded)
Armament	track rails for one .30 and one .50 caliber machine gun
Capacity	6,500 pounds, or 24 fully equipped troops

The LVT(2) has been replaced with the LVT(4) (essentially an LVT(2) with the addition of a stern ramp) and the LVT(3). This picture was taken at Iwo Jima about D plus 10. The parent vessel is an LSM with the following characteristics:

Landing Ship Medium

Length	204 feet
Beam	35 feet
Draft	7 feet (with landing load of 165 tons)
Trial speed	13 knots
Light displacement	513 tons

The LSM is an ocean-going tank-landing ship which is also often used to transport heavy shore party and engineer equipment. Its cargo capacity is:

5 medium tanks, or
6 LVTs, or
9 DUKWs, or
165 tons of cargo

The LSM has troop passenger space for two officers and 52 men.

2. **LCT(5)**

Landing Craft, Tank (Mark 5)

Length	117 feet 6 inches
Beam	32 feet
Draft	4.2 feet aft with maximum load
Speed	6.5 knots with maximum load
Capacity	5 30-ton tanks, or 150 tons of cargo

No troop accommodations

The LCT(5) has been superseded in production by the LCT(6). Constructed in three watertight sections, an LCT may be transported disassembled. An LST can carry five sections or one assembled LCT, which is launched over the side by listing. An LSD can carry three LCTs. This picture was taken at Bougainville on 26 November 1943.

3. **DUKW**

Truck, 2½-ton, 6x6 amphibian, or
Dual Utility Cargo Waterborne
"Duck"

Length	31 feet
Height	top up 8 feet 11 inches top and windshield down 7 feet 6 inches
Width	8 feet 4 inches
Ground clearance (hull)	1 foot 5 inches
Weight	15,000 pounds (fully equipped, no pay load)
Cargo capacity	2½ tons (smooth water), or 25 fully equipped troops, or 12 loaded litters
Speed	5.5 knots in water 50 MPH on land

The amphibious truck is used for ship-to-shore-to-dump transport. It is especially useful in transporting artillery from LSTs to shore and then direclty to firing position. This picture was taken on Goodenough Island on 17 November 1943.

4. **Trailer, 3-ton, 2-wheel, amphibian cargo**

Length	17 feet
Width	7 feet 6 inches
Height	5 feet 6 inches
Weight	4400 pounds (unloaded)
Capacity	4½ tons, or 245 cubic feet

The amphibian trailer is designed as a means of rapidly discharging cargo from larger ships directly to forward units without rehandling at the beach. It may be towed by an LCVP, LVT, DUKW, and when on land, by a truck. Its lack of springs make it inefficient as a land trailer. This one was photographed at Peleliu on 15 September 1944.

5. **Japanese Type "A" Landing Craft (Army)**

Length	49 feet 4 inches
Beam	11 feet 5 inches
Speed	8 - 10 knots
Capacity	100-120 men

Know Your Landing Craft"

It wasn't fair to ring this one into the quiz, but it is a type which should be familiar to veterans of the South Pacific. An adaptation of the Japanese "flap ramp" fishing boat, twin keels give the craft stability after grounding. This photograph was taken at Cape Gloucester on 26 December 1943.

6. LST
Landing Ship Tank

Length	328 feet
Beam	50 feet
Draft	with 500 ton combat load 3 feet 1 inch forward 9 feet 6 inches aft
Capacity load	2100 tons ocean going 500 tons landing combat load

The LST is an ocean-going ship designed to land tanks or vehicles over a bow ramp on a 1/50 beach slope. It was used effectively to transport assault infantry sent ashore in LVTs and artillery to be sent ashore "on call" in DUKWs. This is an elevator LST. LSTs starting with 513 and excepting 531 have a main deck ramp, connecting main and tank deck, instead of an elevator. This picture was taken during an unopposed Marine landing at Nanumea, Ellice Islands, in September 1943. Extremely versatile, they have been used as hospital evacuation ships, troop transports, even to transport mules. One has even been equipped with a flight deck, another with a "Brodie Device" for handling observation planes.

7. LCM(3)
Landing Craft Mechanized (Mark 3)

Length	50 feet
Width	14 feet 1 inch
Weight	26 tons
Capacity	1 30-ton tanks, or 60,000 pounds of cargo, or 60 fully equipped troops

The LCM was designed to land one medium tank directly on the beach. To carry the increased weight of tanks the LCM(6) was developed by adding six feet to the hull, all other characteristics remaining the same. This LCM(3) was photographed at Roi-Namur, Marshall Islands, about 31 January 1944. The parent ship shown here is an LSD (Landing Ship Dock).

8. ¼-ton, 4x4 Amphabian Truck
"Amphibian Jeep"

Length	15 feet 7 inches
Width	5 feet 4 inches
Capacity	800 pounds
Weight	3700 pounds
Speed	4.7 knots (water) 50 MPH (land)

This amphibian model of the jeep is capable of operating in moderate sea and surf. This one was photographed during landing exercises in the South Pacific in March 1943. In the jeep are Col (now MajGen) Lemuel C. Shepherd and staff officers of the 9th Marines.

9. Cargo Carrier, M29C
"Weasel"

Length	15 feet 9 inches
Width	5 feet 10½ inches
Height	5 feet 10½ inches
Speed	25 MPH (land) 3 - 4 knots (water)
Capacity	4 fully equipped men, or 2 men and 1200 pounds of cargo

Originally designed to operate in snow and mud, the weasel can carry a small load across calm water—principally rivers and swamps. It is a tracked vehicle. This one was photographed at Pavuvu in the Russel Islands on 4 February 1945.

10. LCR(L)
Landing Craft, Rubber (Large)
"Rubber Boat"

Length	20 feet
Width	8 feet
Weight	395 pounds (light)
Speed	474 pounds with motor 3½ - 4½ knots with motor

This collapsible rubber raft is powered with an outboard motor or paddled to the beach. It was designed to land patrols and raiders secretly from APDs, submarines, or transports. It may also be used by airborne troops. This picture was taken at Guadalcanal on 22 October 1942. The officer in the boat is Thomas A. Holcomb, then a lieutenant general and commandant of the Marine Corps. Joining him is MajGen A. A. Vandegrift, then commanding the 1st Marine Division.

Future Secured

By Capt Edwin Simmons

THIS ARTICLE IS FOR CAREER MARINES. THAT DOESN'T prevent anyone else from reading it. If you aren't a career marine but just a curious person, continue reading. But don't say that you haven't been warned.

My guess is that the Japs with their nasty nocturnal habits made the marines security conscious. The prewar marine—if we can believe what we read and hear—was a rasher fellow. And that rash disregard for security extended to fields other than tactical. For instance, there was a disregard for financial security. The between-wars Marine officer—of legend, if not of fact—used every cent of his limited income on uniforms, polo ponies, cocktail parties, and White Russian beauties. The enlisted man supposedly spent every cent of his even more limited pay on bent up Stetsons, beer, and bang up liberties. Col John W. Thomason in speaking of banks in one of his stories puts it this way:

"Very few of us, in my service, have enough money in banks for their failures to affect us one way or the other."

Perhaps this isn't quite the way it was, but the popular conception remains that a good marine of the '20s and '30s was one who lived just beyond his income, keeping a neat one jump ahead of the paymaster and quartermaster.

Whatever the truth of the matter, the fact is that marines don't seem to think that way any more. Blame it on the night-marauding Japs, blame it on the high cost of living, blame it on what you will, but the postwar, 1948 variety of marine is acutely conscious of his financial future.

The recruiting posters emphasize it: "The pay and allowances of a private first class are the equivalent to the salary of a bank president" or something like that. And ask any group of former Reserves why they "stayed in" and nine out of ten lists of reasons will be topped by "financial security."

Most of us are looking forward to a well-secured retirement after twenty or thirty years of service. Some of us will be selected out before we are quite ready to go and some of us will cling stubbornly to the Corps until forced out by statutory age limits. But whenever we go out, our financial security is pretty well assured.

Or is it?

I've read somewhere that our British cousins calculate wealth in terms of income; we base ours on assets. An Englishman will say of a friend, "He has a thousand pounds a year."

We say, "He has fifty thousand dollars," meaning that his total assets—capital, if you like—add up to $50,000.

MOST MARINES don't accrue capital. There might be a building lot in La Jolla, there might be that block of ten shares of General Motors left by Uncle George, there might be a savings account and a few savings bonds. But other than that, the capital accretions of most of us are pretty slim. The new Buick looks pretty good now, but in five years what will it be worth? The wife's rings won't bring so much either if they have to be hocked.

So let us take a hypothetical Desmond Zilch and retire him in the rank of major after twenty years of loyal service to his flag. A quick glance at the pay scale tells us that at half pay—the Major's recommendation for a Silver Star didn't go through—his assured retired income is $178.75 a month. That's pretty good. In fact, if the price of meat and eggs is down by 1963 it will be almost enough to live on. Besides, Desmond is not entirely broken in mind and body. He can always get a job selling insurance or real estate.

But,—capital letters, please, because it is a big BUT. . . .

The Zilches will need a place to live. Houses cost money. Besides, Desmond, Jr., and Cobina are 18 and 16 respectively and ready to go away to school. Schools cost money. Our Major sensibly converted his National Service Life Insurance and has kept it up. As they sweat things out in their three room furnished flat, with the kids yammering for Vassar and Harvard, Matilda—that's the Major's wife—begins to eye his souvenir Nambu pistol.

How can we avert this tragedy to our hypothetical Major?

A couple of paragraphs back we slipped in a clue to

The author builds up an excellent argument on the virtue of putting away a little money each month and making it pay off with interest. A bond a month will add up to an amazing sum when you retire from the Corps on twenty or thirty

If a $50.00 "E" Series Savings Bond is Purchased Monthly for 20 Years

Years											Cash Value											Cash Value
0	450										450											
1	453	450									903											
2	459	453	450								1362											
3	468	459	453	450							1830											
4	480	468	459	453	450						2310											
5	492	480	468	459	453	450					2802											
6	504	492	480	468	459	453	450				3306											
7	528	504	492	480	468	459	453	450			3834											
8	552	528	504	492	480	468	459	453	450		4386											
9	576	552	528	504	492	480	468	459	453	450	4962											
10	600	576	552	528	504	492	480	468	459	453	5112	450										5562

Total Investment $4950 **Cash Value @ 10 Years $5562** **Investment Net @ 10 Years $612**
Maturity Value $6600 **Investment Net @ Maturity $1650**

11	604	600	576	552	528	504	492	480	468	459	5263	453	450									6166
12	612	604	600	576	552	528	504	492	480	468	5416	459	453	450								6778
13	624	612	604	600	576	552	528	504	492	480	5572	468	459	453	450							7402
14	640	624	612	604	600	576	552	528	504	492	5732	480	468	459	453	450						8042
15	656	640	624	612	604	600	576	552	528	504	5896	492	480	468	459	453	450					8698
16	672	656	640	624	612	604	600	576	552	528	6064	504	492	480	468	459	453	450				9370
17	704	672	656	640	624	612	604	600	576	552	6240	528	504	492	480	468	459	453	450			10074
18	736	704	672	656	640	624	612	604	600	576	6424	552	528	504	492	480	468	459	453	450		10810
19	768	736	704	672	656	640	624	612	604	600	6616	576	552	528	504	492	480	468	459	453	450	11578
20	800	768	736	704	672	656	640	624	612	604	6816	600	576	552	528	504	492	480	468	459	453	11928

Total Investment $9000 **Cash Value @ 20 Years $11928** **Investment Net @ 20 Years $2928**
Maturity Value $14000 **Investment Net @ Maturity $5000**

21		800	768	736	704	672	656	640	624	612	7012	604	600	576	552	528	504	492	480	468	459	12275
22			800	768	736	704	672	656	640	624	7200	612	604	600	576	552	528	504	492	480	468	12616
23				800	768	736	704	672	656	640	7376	624	612	604	600	576	552	528	504	492	480	12948
24					800	768	736	704	672	656	7536	640	624	612	604	600	576	552	528	504	492	13268
25						800	768	736	704	672	7680	656	640	624	612	604	600	576	552	528	504	13576
26							800	768	736	704	7808	672	656	640	624	612	604	600	576	552	528	13872
27								800	768	736	7904	704	672	656	640	624	612	604	600	576	552	14144
28									800	768	7968	736	704	672	656	640	624	612	604	600	576	14392
29										800	8000	768	736	704	672	656	640	624	612	604	600	14616
30											8000	800	768	736	704	672	656	640	624	612	604	14816

Total Investment $9000 **Cash Value @ 30 Years $14816** **Investment Net @ 30 Years $5816**
Maturity Value $16000 **Investment Net @ Maturity $7000**

Table 1

Wanted: $10,000 in 1963

Years	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	Cash Value	At Maturity
1943	112.50																				112.50	150.00
1944	113.25	225.00																			338.25	450.00
1945	114.75	226.50	450.00																		791.25	1050.00
1946	117.00	229.50	453.00	225.00																	1024.50	1350.00
1947	120.00	234.00	459.00	226.50	112.50																1152.50	1500.00
1948	123.00	240.00	468.00	229.50	113.25	450															1623.75	2100.00
1949	126.00	246.00	480.00	234.00	114.75	453	450														2103.75	2700.00
1950	132.00	252.00	492.00	240.00	117.00	459	453	450													2595.00	3300.00
1951	138.00	264.00	504.00	246.00	120.00	468	459	453	450												3102.00	3900.00
1952	144.00	276.00	528.00	252.00	123.00	480	468	459	453	450											3633.00	4500.00
1953	150.00	288.00	552.00	264.00	126.00	492	480	468	459	453	450										4182.00	5100.00
1954	151.00	300.00	576.00	276.00	132.00	504	492	480	468	459	453	450									4741.00	5750.00
1955	153.00	302.00	600.00	288.00	138.00	528	504	492	480	468	459	453	450								5315.00	6450.00
1956	156.00	306.00	604.00	300.00	144.00	552	528	504	492	480	468	459	453	450							5896.00	7250.00
1957	160.00	312.00	612.00	302.00	150.00	576	552	528	504	492	480	468	459	453	450						6498.00	7950.00
1958	164.00	320.00	624.00	306.00	151.00	600	576	552	528	504	492	480	468	459	453	450					7127.00	8600.00
1959	168.00	328.00	640.00	312.00	153.00	604	600	576	552	528	504	492	480	468	459	453	450				7767.00	9400.00
1960	176.00	336.00	656.0	320.00	156.00	612	604	600	576	552	528	504	492	480	468	459	453	450			8422.00	10200.00
1961	184.00	352.00	672.00	328.00	160.00	624	612	604	600	576	552	528	504	492	480	468	459	453	450		9098.00	11000.00
1962	192.00	368.00	704.00	336.00	164.00	640	624	612	604	600	576	552	528	504	492	480	468	459	453	375	9731.00	11600.00
1963	200.00	384.00	736.00	352.00	168.00	656	640	624	612	604	600	576	552	528	504	492	480	468	459	375.50	10010.50	11800.00
At Maturity	200.00	400.00	800.00	400.00	200.00	800	800	800	800	800	600	600	600	600	600	600	600	600	600	400		11800.00

Cash Value of Bonds Held in 1947	$1,152.50
Maturity Value of Bonds Held in 1947	1,500.00
Cash Value of Bonds in 1963 if Reinvested	1,840.00
Maturity Value of Reinvested Bonds	2,000.00
Cash Value of Bonds in 1963	$10,000.50
Maturity Value of Bonds Held in 1963	$11,800.00
Total Investment	7,800.00
Investment Net in 1963	$2,210.00
Investment Net if Held to Maturity	4,000.00

Table 2

the whole problem. Savings Bonds. Good old United States Savings Bonds, Series "E." The kind that pay a fat 2.9 per cent—in ten years, four dollars back for three paid in. The kind that used to be Defense Bonds, then became War Bonds, and now are Savings Bonds. They're also the safest investment in the world.

SUPPOSE OUR MAJ ZILCH had started buying bonds when he was first commissioned a second lieutenant? Suppose he bought one $50.00 bond a month, purchase price $37.50. Take a look at Table 1. It presupposes just that. It also presupposes that he continued to buy one $50.00 bond each month for twenty years, reinvesting the first series of bonds as fast as they matured. What do you think the cash value would be the day he retired? What do you think the total value would be if each bond was allowed to mature. Take another look at Table 1.

That's a nice round figure. It's enough to buy a pretty big chunk of a house. It's enough to school Desmond, Jr., and Cobina—even at Harvard and Vassar prices.

Now let us suppose that Maj Zilch didn't retire after twenty years. He stuck around until his thirty years were in and went out as a lieutenant colonel. Our LtCol Zilch's retired pay will then be $412.50 or thereabouts and that is very fine indeed. Also, because he had no immediate need for the cash, LtCol Zilch reinvested his first series of bonds for a third time and his second series for a second time. At the end of his thirty years service the cash value of his bonds has become $14,816 and their maturity value $16,000. He could have started a third series of bonds if he wanted. The total would be astronomical.

Okay, now start shooting holes in my scheme. Tell me, for example, that insurance is better.

Rebuttal: Insurance is better in one respect only. Insurance creates an estate immediately. In buying bonds the estate has to build up. But in buying bonds there are no penalties for missed premiums, no reduced cash value, no penalties for borrowing. Sixty days after purchase the bonds are just as good as cash.

All right, now tell me that a family's living expenses are not uniform. Tell me that it won't always be possible to allot $37.50 each and every month.

Rebuttal: No one says that it has to be $37.50 each and every month. In Zilch's case, he set that amount aside and never considered it as part of his income. He budgeted accordingly. You don't have to do that unless you want to. There might be months and years when you want to allot for a smaller bond. There might be years when you can allot for a considerably larger amount—that two year tour of duty at Marine Barracks, Saipan, for instance. The thing to do is to decide the amount you want in twenty or thirty years and then adjust your savings accordingly.

To help you do that I suggest that you draw up a blank form similar to Table 2. Chances are that you already have a considerable amount of bonds—probably ones which your wife bought while she was still working. Figure them into your chart, dating your chart with the purchase date of your first bond and listing the total cash value of all the bonds purchased in each year. On each bond there is a neat little table showing how the interest accrues each six months. Do a little figuring and calculate the cash value of each year's bonds from their purchase until maturity. The vertical columns will show the bonds' growth. The horizontal columns will indicate the bonds' cash value for any given year.

Then in the empty right hand columns figure how much you will have to buy in your remaining years to retirement to gain the desired total.

The figures I have used in Table 2 are for a hypothetical character who expects to retire in 1963. At that time he hopes to have accumulated $10,000. During the past five years he has sporadically purchased bonds and finds that their cash value is $1,152.50, their matured value $1500—or, if reinvested, $2000. Accordingly, he figures that if he buys a 50 dollar bond each month for the next fifteen years (except for 1962 when he needs only ten bonds) he will have the desired $10,000 and a little over. If he doesn't need the cash at that time, he can let all the bonds mature and his total take becomes $11,800—against an investment of $7,800.

The beautiful part of the plan is that it is so easy to put into execution. To make out a bond allotment all you have to do is go to your Disbursing Officer and sign your name in about three places.

US MC

Marines are investing over a quarter-million dollars a month in what has been termed the world's safest investment. According to figures furnished by HQMC, over 5,000 quarterly and 7,000 monthly bond allotments are currently in effect.

Applications for bond allotments are made by enlisted men through their company office; applications by officers are entered through their disbursing office. When the forms are received by the Savings Bond Division, HQMC, a name and address stencil is made and a record of the subscriber, his address, amount of allotment, and date bonds are to be mailed is kept on file.

Marines may have their bonds sent to a domestic address or held in safekeeping. The bonds may be sent to a bank for safekeeping if the buyer submits a statement from the bank that they are willing to accept them. Bonds may not be sent to foreign addresses or overseas stations.

The Future Employment of Naval Forces

By FleetAdm Chester W. Nimitz

SIR WALTER RALEIGH DECLARED IN THE EARLY 17TH century that "whosoever commands the sea, commands the trade; whosoever commands the trade of the world, commands the riches of the world, and consequently the world itself." This principle is as true today as when uttered, and its effect will continue as long as ships traverse the seas. That this period extends beyond the foreseeable future is apparent when it is realized that the 100,000 long tons of cargo which 44 ships can transport from San Francisco to Australia monthly would require for the same purpose 10,000 four-engined C-87 airplanes manned by 120,000 highly trained personnel, plus 89 seagoing tankers to provide gas along the route and at the far end of the run. Cargo carrying aircraft will no more replace vehicles of the same type on the seas than they will those on land. In fact, cargo carrying ships will become increasingly important to the United States both in peace and in war. Our national resources in petroleum products alone are inadequate for the prosecution of a long war. A realistic appraisal of the requirements in materiel for this nation to engage in war shows that an uninterrupted stream of imports will be essential, and that the volume of these imports is such that they must come by sea.

The United States possesses today control of the sea more absolute than was possessed by the British. Our interest in this control is not riches and power as such. It is first the assurance of our national security, and second, the creation and perpetuation of that balance and stability among nations which will insure to each the right of self-determination under the framework of the United Nations Organization.

On the day of his departure from the Navy Department, FleetAdm Chester W. Nimitz, USN, forwarded to the Secretary of the Navy the following paper, prepared in his office, expressing his views on the function of the naval forces in maintaining the future security of the United States. This paper was released to the press and has been widely discussed. Here the GAZETTE *reprints it in its entirety.*

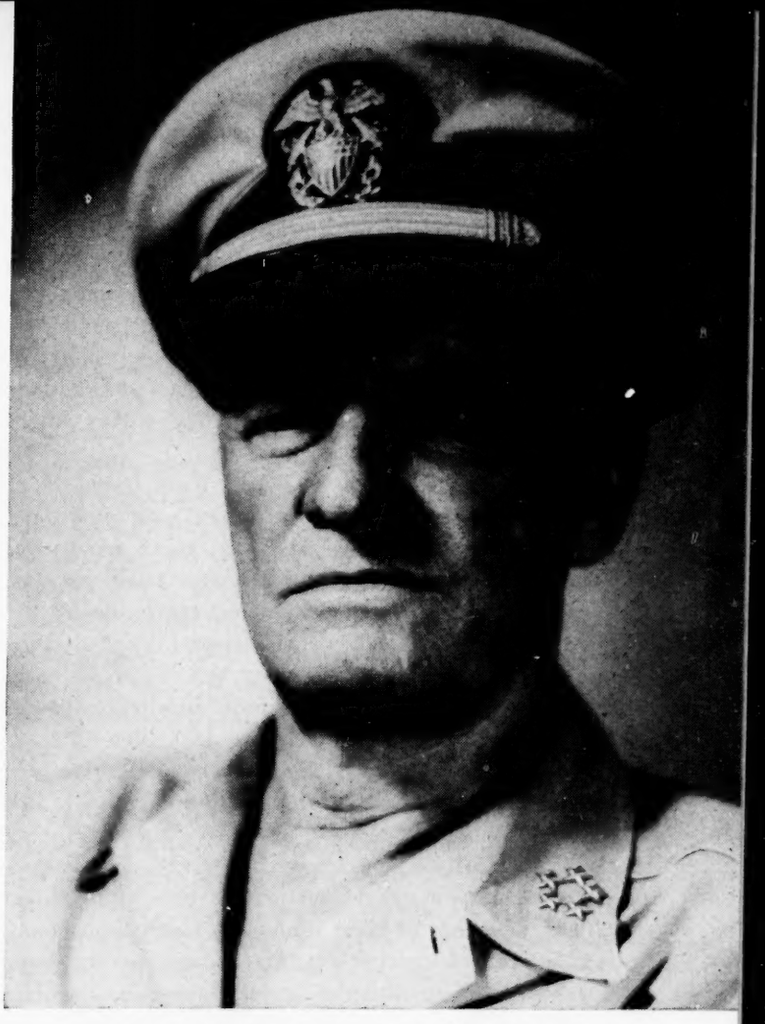
Our present control of the sea is so absolute that it is sometimes taken for granted. As a result there is a faulty tendency, under the assumption that any probable enemy in a future war possesses only negligible apparent fleet strength, to give no major offensive role to the Navy—only a supporting role and the prosecution of antisubmarine warfare. Opposing fleets have been eliminated, it is reasoned, hence ours should be reduced to a mere support force and its appropriations transferred to certain types of aircraft which would be the answer to all our problems of offense and defense. The answer is not so simple. Technology in warfare, as in all else, has simplified some details but has greatly complicated the aggregate. The submarine and the torpedo, far from eliminating combatant surface ships, produced the depth charge, sonar and electronic sounding and the antisubmarine aircraft which in two wars have successfully defeated them. Similarly, the airplane in its application against naval forces has already given creation to the proximity fuse, homing missiles, electronic ranging and gun control, and carrier attack aircraft which, during World War II, repeatedly defeated concentrations of Japanese land-based aircraft wherever encountered.

Our present undisputed control of the sea was achieved primarily through the employment of naval air-sea forces in the destruction of Japanese and German sea power. It was consolidated by the subsequent reduction of these nations to their present impotence, in which the employment of naval air-sea forces against land objectives played a vital role. It can be perpetuated only through the maintenance of balanced naval forces of all categories adequate to our strategic needs (which include those of the non-totalitarian world), and which can flexibly adjust to new modes of air-sea warfare and which are alert to develop and employ new weapons and techniques as needed.

A report made in 1657 by one of Cromwell's admirals that: "After we destroyed the ships we plied our

guns against the forts . . ." indicates that the purpose of achieving sea power and the recognized practice of applying pressure against an enemy wherever he can be reached by naval forces has not changed from that day to this. The basic objectives and principles of war do not change. The final objective in war is the destruction of the enemy's capacity and will to fight, and thereby force him to accept the imposition of the victor's will. This submission has been accomplished in the past by pressure in and from each of the elements of land and sea, and during World War I and II, in and from the air as well. The optimum of pressure is exerted through that absolute control obtained by actual physical occupation. This optimum is obtainable only on land where physical occupation can be consolidated and maintained. Experience proves that while invasion in some form—of adjacent sea areas, covering air spaces, or enemy territory itself—is essential to obtain decisions in war, it is sometimes unnecessary to prosecute invasion to the extent of occupying a nation's capital or other vital centers. Sufficient of his land, sea or air territory must be invaded, however, to establish the destructive potential of the victor and to engender in the enemy that hopelessness which precedes submission. The reduction of Japan is a case in point.

NAVAL FORCES have always played a vital and often deciding role in warfare by invading adjacent sea areas to project their pressure on enemy territory. Before the invention of gun powder, in the days of Greece and Rome, there was no such thing as a "fleet in being." Naval forces were built as they were needed, and the transport had equal standing with the man-of-war. The latter served to clear the narrow seas for the transport to discharge its force of men and weapons upon enemy territory where the decision was obtained. In the long history of British domination of the seas, it is safe to say that the Royal Navy fought as many engagements against shore objectives as it did on the high seas. Singularly it was the defeat by his shore batteries of a Royal Navy squadron off Toulon that gave Napoleon early in his career a disdain for British seapower. It was this same British seapower, in the form of a tight blockade which denied world intercourse to him but assured it to his enemies, and in the victories of Copenhagen, the Nile and Trafalgar, which was the controlling factor in his eventual defeat. Also the great British strategic bastion of Gibraltar was captured in 1704 by a force of Royal marines and seamen landed from a naval squadron which had first pounded the Spanish garrison into a state of confusion and despair.



FleetAdm Nimitz scoffs at the idea that aircraft will replace ships in future wars.

The Naval history of our own Civil War is a vivid portrayal of the employment of naval forces against an enemy without a fleet. Naval forces were a controlling factor in the Confederate defeat and in shortening the war. The Confederate States had no fleet. They were a consolidated land power with the advantage of interior lines and the possession of several large sea and river ports affording access to world commerce which they vitally needed. The Federal States outlined their naval missions as (a) the blockade of Southern ports along a coastline of more than 3000 miles; (b) the reduction, in conjunction with the Army, of Atlantic and Gulf strongholds; and (c) the occupation and control of the Mississippi and its tributaries. The blockade was established and soon Confederate commerce, as such, ceased. Naval operations started on the western rivers

The United States control of the seas was accomplished through the employment of naval sea-air forces against the Germans and Japanese. To hold this advantage we must maintain a balanced naval force adequate for all our strategic needs

in the first year of the war—November, 1861. They were mainly in conjunction with the Army but frequently objectives were accomplished by naval gun and mortar fire alone. By April, 1862, with the passage of Farragut's squadron past the Mississippi entrance forts and the capture of New Orleans, the Confederate States had been sealed on the Western, Gulf and Atlantic boundaries. It is safe to state that had they been unmolested by sea power and had they received money, men and munitions from Europe, South America and Mexico they might well have consolidated their secession.

The development between World Wars I and II of naval aviation provided naval forces with a striking weapon of vastly increased flexibility, range and power. The development and use of this weapon in World War II against both sea and land objectives is one of the great achievements in modern warfare. It spearheaded our Pacific attack. First, it swept the sea of all naval opposition. Then it became the initial striking weapon in the capture of Guam, Saipan, and Iwo Jima—the advanced bases from which long-range bombers were able to strike the vital centers of the Empire. Finally, like the British squadron in 1657, our Navy "after destroying the ships plied its guns against the Forts" and participated directly in the destruction of those vital centers on Okinawa and the home islands by gunfire and bombing; in spite of the concentration of Japanese air power our Navy made possible the success of our gallant ground forces.

In all of these operations the employment of air-sea task forces demonstrated the ability of the Navy to concentrate aircraft strength at any desired point in such numbers as to overwhelm the defense at the point of contact. These operations demonstrate the capability of naval carrier-based aviation to make use of the principles of mobility and concentration to a degree possessed by no other force.

IN ADDITION to the weapons of World War II the Navy of the future will be capable of launching missiles from surface vessels and submarines, and of delivering atomic bombs from carrier-based planes. Vigilant naval administration and research is constantly developing and adding to these means. In the event of war within the foreseeable future it is probable that there will be little need to destroy combatant ships other than submarines. Consequently, in the fulfillment of long accepted naval functions and in conformity with the well known principles of warfare, the Navy should be used in the initial stages of such a war to project its weapons against vital enemy targets on land, the reduction of which is the basic objective of warfare.

For any future war to be of sufficient magnitude to affect us seriously it must be compounded of two primary ingredients: vast manpower and tremendous industrial capacity. These conditions exist today in the great land mass of Central Asia, in East Asia and in Western Europe. The two latter areas will not be in a position to endanger us for decades to come unless they pass under unified totalitarian control. In the event of war with any of the three we would be relatively deficient in manpower. We should, therefore, direct our thinking toward realistic and highly specialized operations. We should plan to inflict unacceptable damage through maximum use of our technological weapons and our ability to produce them in great quantities.

Initial devastating air attack in the future may come across our bordering oceans from points on the continents of Europe and Asia as well as from across the polar region. Consequently our plans must include the development of specialized forces of fighter and interceptor planes for pure defense, as well as the continued development of long range bombers. Offensively our initial plans should provide for the coordinated employment of military and naval air power launched from land and carrier bases, and of guided missiles against important enemy targets. For the present, until long range bombers are developed capable of spanning our bordering oceans and returning to our North American bases, naval air power launched from carriers may be the only practicable means of bombing vital enemy centers in the early stages of a war.

In summary it is visualized that our early combat operations in the event of war within the next decade would consist of:

Defensively:

a. Protection of our vital centers from devastating attacks by air and from missile-launching submarines.

b. Protection of areas of vital strategic importance, such as sources of raw materials, our advanced bases, etc.

c. Protection of our essential lines of communication and those of our allies.

d. Protection of our occupation forces during reenforcement or evacuation.

Offensively:

a. Devastating bombing attacks from land and carrier bases on vital enemy installations.

b. Destruction of enemy lines of communication accessible to our naval and air forces.

c. Occupation of selected advanced bases on enemy territory and the denial of advance bases to the enemy through the coordinated employment of naval, air and amphibious forces.

Of the above activities or functions there are certain ones which can be performed best by the Air Forces and certain others which can be performed best by the Navy—it is these two services which will play the major roles in the initial stages of a future war. The 80th

Congress took cognizance of this fact when, in the National Security Act of 1947, it specifically prescribed certain functions to the Navy, its naval aviation and its Marine Corps. In so doing the Congress gave emphasis to the fact that the organizational framework of the military services should be built around the functions assigned to each service. This is a principle which the Navy has consistently followed and is now organized and trained to implement.

Defensively, the Navy is still the first line the enemy must hurdle either in the air or on the sea in approaching our coasts across any ocean. The earliest warning of enemy air attack against our vital centers should be provided by naval air, surface and submarine radar pickets deployed in the vast ocean spaces which surround the continent. This is part of the radar screen which should surround the continental United States and its possessions. The first attrition to enemy air power might be by short range naval fighter planes carried by carrier task forces. Protection of our cities against missile launching submarines can best be effected by naval hunter-killer groups composed of small aircraft carriers and modern destroyers operating as a team with naval land-based aircraft.

The safety of our essential trade routes and ocean lines of communication and those of our allies, the protection of areas of vital strategic importance such as the sources of raw material, advanced base locations, etc., are but matters of course if we control the seas. Only naval air-sea power can assure this.

Offensively, it is the function of the Navy to carry the war to the enemy so that it will not be fought on United States soil. The Navy can at present best fulfill the vital functions of devastating enemy vital areas by the projection of bombs and missiles. It is improbable that bomber fleets will be capable, for several years to come of making two-way trips between continents, even over the polar routes, with heavy loads of bombs. It is apparent then that in the event of war within this period, if we are to project our power against the vital areas of any enemy across the ocean before beachheads on enemy territory are captured, it must be by air-sea power; by aircraft launched from carirers; and by heavy surface ships and submarines projecting guided missiles and rockets. If present promise is developed by research, test and production, these three types of air-sea power operating in concert will be able within the next ten years critically to damage enemy vital areas many hundreds of miles inland.

Naval task forces including these types are capable of remaining at sea for months. This capability has raised to a high point the art of concentrating air power within effective range of enemy objectives. It is achieved by refueling and rearming task forces at sea. Not only may the necessary supplies, ammunition and fuel be replenished in this way but the air groups themselves may be changed. The net result is that naval forces are able, without resorting to diplomatic channels, to establish offshore anywhere in the world, air fields completely equipped with machine shops, ammunition dumps, tank farms, warehouses, together with quarters and all types of accommodations for personnel. Such task forces are virtually as complete as any air base established. They constitute the only air bases that can be made available near enemy territory without assault and conquest; and furthermore, they are mobile offensive bases that can be employed with the unique attributes of secrecy and surprise—which attributes contributes equally to their defensive as well as offensive effectiveness. Regarding the pure defense of these mobile air bases the same power projected destructively from them against the enemy is being applied to their defense in the form of propulsion, armament, and new aircraft weapons whose development is well abreast the supersonic weapons reputed to threaten their existence.

IT IS CLEAR, therefore, that the Navy and the Air Force will play the leading roles in the initial stages of a future war. Eventually, reduction and occupation of certain strategic areas will require the utmost from our Army, Navy, and Air Force. Each should be assigned broad functions compatible with its capabilities and limitations and should develop the weapons it needs to fulfill these functions, and no potentiality of any of the three services of the military establishment should be neglected in our scheme of National Defense. At the same time each service must vigorously develop, in that area where their functions meet, that flexibility and teamwork essential to operational success. It should also be clear that the Navy's ability to exert from its floating bases its unique pressure against the enemy wherever he can be reached —in the air, on sea or land—is now, as it has been, compatible with the fundamental principles of warfare. That our naval forces can be equipped defensively as well as offensively to project pressure against enemy objectives in the future is as incontrovertible as the principle that every action has an equal and opposite reaction.

In measuring capabilities against a potential enemy, due appreciation must be taken of the factors of relative strength and weakness. We may find ourselves comparatively weak in manpower and in certain elements of aircraft strength. On the other hand we are superior in our naval air-sea strength. It is an axiom that in preparing for any contest, it is wisest to exploit—not neglect—the element of strength. Hence a policy which provides for balanced development and coordinated use of strong naval forces should be vigorously prosecuted in order to meet and successfully counter a sudden war in the foreseeable future. US MC

In Brief

Units of the *2d Marine Division* are maneuvering in the Vieques-Culebra area in conjunction with the Atlantic Fleet Caribbean war games. The exercises which began at the beginning of February are expected to terminate sometime in March. In addition to the Navy, Marine, and Army forces engaged, the games are being witnessed by a large number of military and civilian observers.

The *increasing demand* for officers' uniforms of Marine Corps manufacture has been met by the stocking of pre-cut uniforms which are adjusted to the individual measure of the officer concerned. A local tailor indicates on Alteration Form NAVMC DQP 432 such changes as are necessary to alter a stock size sample uniform to fit the individual officer concerned. Pre-cut samples will be made available at San Francisco, Camp Lejeune, Parris Island, Quantico and Camp Pendleton.

New *advances in radar* make it possible to chart the speed of a bullet while it is still in the barrel of a gun. These advances also make it possible for soldiers in the field to detect the location of artillery firing on them and to pick out a moving tank from the clutter of other motionless objects on the radar screen. The new equipment can also pick up moving troops, and is light enough to be carried in the field by soldiers.

The "*flying stovepipe*," largest supersonic ram jet engine ever flown attained a speed far into the supersonic range in its first test flight at the Naval Ordnance Test Station at Inyokern, California. Pound for pound of engine weight, this large ram jet delivers about 25 times the power available from the best aircraft reciprocating engines. By comparison, the power developed by this simple engine was considerably in excess of the combined horsepower of the largest four-engine planes.

The *Fleet Marine Force* comprises 43 per cent of the total strength of the Marine Corps. Security forces account for 15.4 per cent, ship's detachments 3.0 per cent, supporting establishment, supply and administrative 18.3 per cent, supporting establishment and training 12.3 per cent and nonavailable (men eligible for discharge, etc.), 8.0 per cent.

A new *accelerating device*, the largest of its kind in the world, now being designed and built by the McKiernan-Terry Corporation for the Office of Naval Research, will subject pilots and instruments to high accelerations, similar to those experienced in modern military aircraft in sharp turns or pulling out of dives The equipment will be used to determine the forces a man can withstand under such conditions, and for developing protective devices and means for extending the limits determined.

Marine Corps Naval Aviators who desire a *transfer to ground duty* are requested to send their applications to Headquarters prior to 15 March 1948, giving date they wish to be detached from aviation duty. An overage of Naval Aviators make this change of duty possible. The change will not jeopardize the officer's career in the Marine Corps. Officers transferring will be given every consideration for assignment to the service school of their choice.

The Air Force has redesignated its bombers as follows: *Heavy Bomber*—Over 2,500 nautical miles tactical operating radius at design gross weight and design bomb load (B-35, B-36). *Medium Bomber*—Tactical operating radius of 1,000 to 2,500 miles at design gross weight and design bomb load (B-29, B-50). *Light Bomber*—Under 1,000 nautical miles tactical operating radius at design gross weight and design bomb load (A-26, B-45).

The fastest known *refracting photographic* lens has been developed by the Signal Corps Engineering Laboratories at Monmouth. The lens is used in making photographs of extremely low light levels and is particularly suitable for motion pictures of X-ray fluorescent screens and of cathode-ray tube traces. It can also be used in projectors and telescopes.

On 16 January the *Organized Marine Corps Reserve* ground units reached a total of 20,123 officers and men in their recruiting drive to fill the quota of 29,696. Fourteen ground units were at full strength, including four engineer companies, seven infantry battalions, two howitzer battalions, and one amphibian tractor battalion One of the howitzer battalions was a 155mm, the other a 105-mm howitzer battalion.

"Operation Buried Alive" has been developed by the Army Ordnance Department to bury the large quantity of ammunition now on hand. The shortage of magazine storage facilities forced the Army to try this experimental plan. The new method eliminates need for new magazine construction; cuts surveillance to a minimum and eliminates periodic inspections with possible renovation and repeated coating with preservative materials.

The *new E ration,* which is to take the place of K and C rations, is being submitted to exhaustive tests for stability. Packages of the rations have been stacked at Camp McCoy, Wisconsin and at Fairbanks and Adak, Alaska, where they will remain for two years, exposed to the rigors of the weather in some of the most extreme dry-cold and wet-cold on earth.

A pocket-size *"assault meter,"* which can be carried by a soldier into future atomic combat to detect deadly gamma rays, was recently demonstrated in Chicago. Different in principle from the Geiger counter, the assault meter is so simple to operate that anyone who can read a watch can determine the amount of deadly radiation in a combat area.

A *new parachute* that has opened at speeds up to 430 knots has been designed by the Navy Parachute Experimental Unit. The new design consists of a standard canopy with a six-foot "cap" in the center. The "cap" extends on elastic cords, spilling the air out the top. As the chute slows down the cap is drawn back to the chute, spillage is cut down, and the rate of descent is gradually decreased.

A *voice-ray telephone,* using infra-red rays was developed by the Navy during World War II. It has a line-of-sight range, and eliminates freak interception or interference by an enemy miles away. Conversation can be held between near-by-ships or from ship to shore, but the invisible rays will not penetrate fog, water, or anything that stops a visible light ray.

Seventeen new types of planes were received by the Air Force during 1947 but only one, the Lockheed P-80B jet fighter, was delivered in quantity. Most of the others were confined to one or two experimental models. Some 200 of the P-80B were delivered, while deliveries of the other 16 types totalled less than 40 planes.

The Northrop YB-49, jet version of the Flying Wing is powered by eight General Electric T-180 turbojets developing approximately 4,000 pounds of thrust each, with a scheduled increase up to 5,000 pounds of thrust per engine. Weighing 88,100 empty, the wing is designed to operate at 30,000 feet with a gross weight of 200,000 pounds. The jet wing is intended as a heavy bombardment airplane, although its design is adaptable to cargo and transport use.

A new, *super octane aviation* gasoline which steps up aircraft engine power as much as 15 per cent is being used by Navy combat planes. The more powerful fuel, technically designated grade 115/145 aviation gasoline, increases the performance of carrier-borne fighters and attack bombers, and improves the effectiveness of long-range patrol planes. The power increase is shown in higher speeds, faster rates of climb, and ability to carry greater payloads longer distances

The recently developed *hydro-flap* will be installed on several of the Navy's newer land-based patrol planes for use in forced landings on water. The hydro-flap is designed to keep the nose of the plane skimming along the surface of the water until most forward speed is lost. This will give the personnel more time to utilize escape hatches and launch survival gear before the plane sinks, and is expected to cut personnel losses.

Japanese balloon-bomb attacks against the United States were abandoned because no reports were forthcoming on the results. Although it is estimated 1,000 balloons reached the Western Hemisphere, only 283 separate recoveries of balloon materials were made, the findings ranging from small pieces to a few almost intact balloons Balloons were found in such scattered localities as Michigan, Texas, Mexico, Alaska, and Canada.

The *Naval Air Transport Service* flew more than 320,000 passengers a total of almost 500,000 passenger miles during 1947 with no fatalities. Approximately 75 per cent of the route miles flown by NATS lie outside the continental United States, and are flown in support of deployed fleet units and shore establishments. Approximately 90 per cent of all transport flying done by NATS is scheduled flying, while the other 10 per cent comprises special missions, training and test flights.

TARAWA Bombardment

THIS STORY OF THE BOMBARDMENT OF TARAWA begins on 14 November 1943 aboard the battleship USS *Tennessee*, proceeding as a part of Task Force 53, en route for Gilbert Islands in the Central Pacific. That morning the ship received a dispatch from the Task Force Commander RearAdm Harry W. Hill to "Give all hands the general picture of projected operations and further details to all who should have them in execution of their duties."

In compliance with this directive, Capt Robert S. Haggart, USN, commanding the *Tennessee*, assembled all hands and had the following memorandum read to them, viz:

> "The *Tennessee* is now proceeding to Tarawa, an atoll in the Gilbert Islands, in company with the ships of our present formation and a few others which will shortly join. This group is the Southern Group of

The USS *Tennessee*, seen here from the USS *Monrovia*, silenced a Jap 6-inch coastal defense battery with her third salvo from 14-inch guns. The ship scored a direct hit from 17,870 yards out

a force which will simultaneously attack the Atolls of Makin and Tarawa, now held by the Japanese. This will be the first assault on a strongly defended atoll and the combined operation is the largest offensive Pacific operation to date. Practically our whole Pacific Fleet will take part in one of the attack forces or covering forces.

"At Tarawa the battleships, cruisers and destroyers will bombard the island and support the Marines in their landing. The *Tennessee* leads the bombardment and the success of our bombardment is vital to the success of the whole operation. Enemy opposition must be expected."

By MSgt Roger M. Emmons

Afterwards, in the wardroom, the ship's officers were told the whole invasion plan in great detail. And that afternoon, Capt Ernest E. Schott, commanding the *Tennessee's* Marine Detachment, gave the Marines a preliminary briefing of the coming operation. To sum it up:

Tarawa Atoll lies on the equator, 2400 miles southwest of Pearl Harbor, and was a British possession until captured by the Japanese in December 1941. The atoll itself consists of a chain of 26 small, low-lying coral islands, surrounded by reefs. The group is shaped like a lopsided V, with one leg extending north 18 miles and the other running west for 12 miles with a lagoon inside the angle. The key island is Betio at the western tip of the atoll. It has an airfield in the center, and the whole island is strongly fortified. The purpose of our attack is to recapture Betio Island and develop it as an advanced air base for future Central Pacific operations. The assault force will be comprised of the 2d Marine Division under the command of MajGen Julian C. Smith. On Saturday, 20 November 1943 the troops will land on the north, or lagoon, side of the island. According to the battle plan, the initial landing is set for 0830, after a three hour bombardment of the Japanese defenses by air and naval gunfire.

To resume the narrative. In addition to some seventeen big transports and supply ships, the invading fleet included the old battleships *Maryland* (flying the flag of RearAdm Hill), *Tennessee* and *Colorado*, accompanied by several cruisers. They were provided with air cover by fighter planes from three or four escort carriers and screened by a group of destroyers. As the invading force neared the Gilbert Islands, Japanese submarines were contacted and our destroyers dropped depth charges in those areas. And enemy scout planes shadowing the task force were reported shot down by our protective fighters on several occasions. Unquestionably by this time the Japanese on Tarawa must have been warned by their intelligence organization of the presence of the American fleet in the vicinity.

Aboard the *Tennessee* sailors and marines of the ship's gunnery division spent many hot hours studying maps and aerial photographs of Betio Island. The map showed Betio to be a low-lying coral island about two and a half miles long from east to west and 800 yards wide at its widest point, tapering down at its eastern end to a long narrow sand spit. The island resembled a lean pork chop. Information on the Japanese defenses and gun installations was obtained through study of air photographs.

THE JAPANESE coast defense armament included four 6-inch guns and four 8-inch guns. Sited to sweep the lagoon with fire, two of the 6-inch guns were located on the northwest corner of the island and two on the north coast of the eastern tip. On the south, or seaward, side of the island, two 8-inch guns were emplaced at the southeast corner and two on the south coast of the eastern tip. There was an undisclosed number of 80mm guns, other batteries, machine guns and mortars stationed at various points throughout the island. Information was meager about the size and composition of the Japanese garrison on Betio. Their number had been estimated at 2,000.

Before dawn on the morning of November 20th the American task force reached Tarawa, and the transports gathered about eleven miles off to the northwest of Betio Island, while the battleships, cruisers and destroyers moved up into position offshore to deliver the pre-landing bombardment. On the *Tennessee* the alarm for general quarters sounded at 0515. When I arrived at my battle station on the Marine automatic weapons battery it was still pitch dark. Shooting had already started. Fires were visible on Betio. The cruiser *Santa Fe* was fighting a gunnery duel with a shore battery. This was truly a spectacle. There would be a whirling sheet of orange flame from the cruiser's guns and then a couple of red balls would streak through the blackness toward

Whirling sheets of orange flame and red balls of steel streaked through the early dawn as battleships, cruisers, and destroyers began their softening-up barrage. Concrete, steel, and log pillboxes withstood everything but direct hits

the island. Then the enemy's shore battery would answer by another yellow flash hurling a meteor across the sea at the cruiser. Farther out at sea enemy shells from the coastal defense guns were exploding in the water near the transports.

At dawn the island of Betio stood out sharply in silhouette against the eastern sky. From the approaching warships it looked striking and beautiful, a low-lying islet plumed with tall coconut palms which fringed beaches of white sand. The weather was clear and warm with a gentle breeze blowing.

About 0611 the bombardment began. The naval gunfire plan called for an intense bombardment to be laid down all over the island but particularly on the western end. This schedule of fire was drawn up with prearranged mathematical calculation long before the beginning of the engagement. Each ship was to fire at predetermined targets for a given length of time, with a definite number of rounds. The *Tennessee's* first target was the 6-inch coastal defense battery located on the northwest point. Main battery fire schedule called for a three-gun salvo every 30 seconds. It is worth recording that the third salvo from her 14-inch guns put the shore battery out of action. The range was 17,870 yards. The ship's report on effect of the firing, in part, says:

"The ship opened fire on a definite target and at the third salvo a large explosion was seen but shortly afterwards the target became entirely obscured by smoke and so no further sight observations could be obtained. It has been reported that this third salvo put a large caliber battery out of action which was then firing at the transports."

AT 0613 the task force ceased firing when several squadrons of our carrier-based planes appeared overhead and dropped tons of high explosives on Betio. For nearly ten minutes the island flicked with great orange bursts of flame and huge clouds of black smoke reached high into the air. There was enemy antiaircraft fire. As the last plane disappeared the warships resumed their shelling. Then the *Tennessee* moved in to the 7,000 yard range off the western end of Betio and began concentrating its main and secondary batteries on a 300 or 400 yard strip of lagoon shoreline at the northwest end of the island. The secondary battery (5-inch) schedule called for four-gun salvos to be fired at twelve second intervals.

About 0642 the *Tennessee* came under fire of Japanese shore batteries, but the ship was not hit, although splashes of enemy shells could be seen striking the water around her. The next incident occurred at 0726 when an enemy submarine that poked her nose into the bombardment operation was engaged by the destroyer *Meade*.

For more than two hours the bombardment continued. The warships stood from 2,000 to 8,000 yards offshore and poured a steady stream of steel at gun emplacements, the beach area, and other specific targets. Huge fires were started as oil storage tanks and ammunition dumps came under fire. Explosion after explosion could be seen on the island, and clouds of black smoke billowed skyward. At times, the shoreline and tall coconut palms behind it were completely obscured by heavy smoke and dust. The aerial observer in the *Tennessee's* spotting plane reported, "Target area completely black." Sometimes, too, the warships were shrouded in the smoke created by their own gunfire, such was the intensity of the shelling. The noise was deafening. At 0823 there was a momentary lull in the naval bombardment when about thirty American dive bombers appeared on the scene and carried out a strafing mission on the island. The air strike was over at 0830, and the Navy's guns resumed firing.

H-HOUR (time the leading landing boat wave was supposed to reach the beach) had been ordered delayed 30 minutes to give the landing boats more time to reach the line of departure because it was a longer trip than scheduled due to the fact that the continued Jap shell fire had forced the transports to shift out of range of the shore batteries. Instead, therefore, of the leading assault wave reaching the beach at 0830, it was postponed till 0900. This change in landing time necessitated the warships slowing down the rate of fire proportionately to insure that sufficient ammunition would be available to maintain the schedule and volume required at the end of the pre-landing bombardment.

While the final phase of the bombardment was going on the landing craft formation, preceded by the minesweeper *Pursuit* escorted by the destroyer *Ringgold*, shoved off from the line of departure to make the trip across the lagoon to the beach. Amphtracs were used to carry the first three waves of assault troops. The succeeding waves followed in blunt-nosed Higgins landing boats. The initial attack was to be made by three reinforced battalions landing abreast on the one-mile stretch of lagoon shoreline between the northwest end of the island and a point roughly halfway up the lagoon coast. Midway on the landing beach a long pier extended out from the shore for a distance of about 50 yards. This pier with a beached Japanese freighter nearby was a key terrain feature of the beach area.

Because of the heavy bombardment the assault troops crossed the lagoon in their landing crafts with little opposition. At 0855 the bombardment was completed and all firing almost entirely ceased. Warships and planes already had dropped more than 2,500 tons of shells and bombs on the island, and it looked as though nothing could live under that devastating hail of steel. Numerous direct hits were observed scored on gun emplace-

Direct hits from destroyers failed to demolish this blockhouse used as a command post on Tarawa. Constructed of concrete and reinforced with sand and coconut logs, its walls were eight feet thick.

ments, pill boxes, and other fortifications by both the warships and bombers. A pall of smoke and dust hung over the island. Several large fires were burning. The coconut trees were broken and splintered, their fronds torn off. The Japanese guns were still, and an ominous silence lay over the lagoon.

THEN ILL-LUCK took a hand; some 500 yards offshore the formation of landing craft hit a shallow reef. The first three waves of amphtracs clawed their way over the coral barrier without difficulty and moved on toward the beach, but the fourth and succeeding waves of Higgins boats could not pass over the reef. Suddenly, the Japanese on Betio came to life. As the first three waves of amphtracs neared the beach they were met by a hail of Jap mortar shells and automatic weapons fire, while shore batteries blasted away at the Higgins boats hung up on the reef. The fact was that a great many Japanese had survived the bombardment, and that neither the warships nor the bombers had eliminated the enemy's defenses.

The first wave of amphtracs touched on the beach at approximately 0917, and as the assault troops leaped ashore they were greeted by heavy fire by the Japanese with every weapon available, including rifles. The Marines ran toward palm trees, logs, sand humps, anything beyond the water's edge which offered cover. They made their way to a retaining wall of coconut logs immediately inshore from the beach, and this was the first shelter they found against Jap fire.

Then the defenders stepped up their fire, both on the beach and reef. Apparently their plan was to annihilate our force on the beach and destroy all our attempts to land reinforcements. From a line of pill boxes and entrenchments the hidden Japs poured mortar shells and machine gun fire into the small force of Marines crouched behind the retaining wall. Out on the reef shell bursts from enemy shore batteries and mortars spouted up among the stranded Higgins boats, and troops in the open landing crafts suffered casualties. Some of the boats were blown right out of existence. Upon this situation the men jumped overboard into neck-deep water and started wading 500 yards shoreward through a withering fire of Jap mortar shells and automatic weapons. It was a long slow trip into the beach. Bodies slumped and disappeared beneath the water. One of the sorriest sights

of the war was to watch these tiny figures struggle toward the beach, while the water about them boiled and spouted under the hail of lead. Casualties were extremely heavy, but those who got ashore joined the assault troops behind the retaining wall.

THAT WAS THE BEGINNING of the bitter fight for Betio beachhead. For a thin slice of time the situation ashore was so critical it seemed that the Japanese might exterminate the Marines before reinforcements could reach them. But a beachhead was obtained because the assault waves had a toehold on the island and hung on through sheer grit, and more Marines kept doggedly wading in neck-deep water 500 yards into the beach to support them. By 1000 some units had advanced inland to the edge of the airstrip but others were knocked back every time they crawled up over the retaining wall.

Meanwhile the warships remained in their respective positions after the landing to provide "call fire" in support of the troops ashore. At 1054 the *Tennessee* commenced delivering her first "call fire" in target area 207, using both main and secondary batteries, and continuing shelling for about forty-five minutes. The second order for "call fire" came at 0024 and the ship again fired until 0100. Range to the island on this occasion was 3,000 yards which in the world of battleships is practically sitting on the beach. During remainder of day the *Tennessee* stood by offshore awaiting further orders for firing but none was requested. The ship was kept in motion as the fire from Japanese shore batteries and the vulnerability to submarine attacks rendered it impossible to anchor without great risk.

In course of the afternoon we scanned the island with binoculars to locate enemy gun installations and defenses. Our battleship aviators flew low over Betio observing the battle. Lying very close inshore, destroyers were firing from ranges of 700 to 900 yards. Across the water rolled the sound of shelling and of rifle and machine gun fire. At D-day's end little was known of the situation ashore beyond that violent fighting was in progress and there were a good many casualties. The Marines had established a small beachhead about 200 yards wide and 20 yards deep around the head of the pier. For some reason which we probably will never know the Japanese did not counterattack that night.

Soon after dawn on the morning of the second day a battalion, which had spent the night in landing craft offshore, climbed out of their Higgins boats and started wading ashore. These troops were met by a withering fire of enemy mortar shells and automatic weapons reminiscent of the previous morning—men began to drop while the water about them churned under the hail of lead. A portion of them reached the beach, but the Japanese fire took a heavy toll. A good many of the casualties came from machine guns in the wrecked freighter which was beached near the pier. During the night the Japs had swum out to the ship and converted it into a veritable machine gun nest. In progress of the morning air strike, our dive bombers scored several hits on the ship, and smoke and flames poured from the hull.

All that day the *Tennessee* moved to and fro off the island, prepared to furnish gunfire, when requested. The scene was unchanged. Shell bursts from enemy shore batteries still splashed among the landing craft in the lagoon. Our destroyers stood close inshore, firing intermittently. Several cruisers joined in the attack. All day our forces alternated between naval shell fire and aerial bombardment. When the ships were not engaged our planes would carry out bombing missions and strafing. There was also some enemy antiaircraft fire. Over on the beach we could make out the dark forms of tanks milling about and see the flashes of guns. Now and then flame throwers would be seen spouting liquid fire at pillboxes.

I think it entirely proper at this point to run ahead of the main narrative and report an interesting talk on the subject of Japanese defense of Betio Island given by LtCol Emery E. "Swede" Larson, USMC, attached to the flag of RearAdm Howard F. Kingman, Commander of Battleship Division Two on the *Tennessee*, who made trips ashore as liaison officer between the Flag and the 2d Marine Division. Concerning the defense setup on Betio, LtCol Larson said the Japanese had built a coconut log retaining wall all around the edge of the island. Inside this barricade a total of some 500 pillboxes decorated the area like porcupine quills. In between the pillboxes they had constructed numerous blockhouses, machine gun emplacements, and bomb-proof shelters. These installations were made of concrete, steel and coconut logs. Covered with three or four feet of coral sand, they stood anything but a direct hit. The job came down to an old fashioned man-to-man struggle —the stout fortifications had to be neutralized one by one. Flame throwers, 75mm pack howitzers and demolition charges proved particularly effective against these strongholds.

MIDAFTERNOON NEWS was received from ashore that the fighting was going slowly against fanatical resistance, but at some point not precisely discernible the tide of battle turned in favor of the Marines, and some units had crossed the airstrip and reached the far side of the island.

Late in the afternoon a battalion of Marines occupied Bairiki Island which is east of Betio and so close that it is possible to cross the narrow channel on foot at low tide. Japanese from Betio had been observed crossing the narrow water gap to find refuge on the adjacent island. The *Tennessee* covered this landing of troops but

A direct hit from a 16-inch shell put this Jap 8-inch coastal defense gun out of action. Most emplacements on Tarawa were equally tough; nothing less than a direct hit did damage.

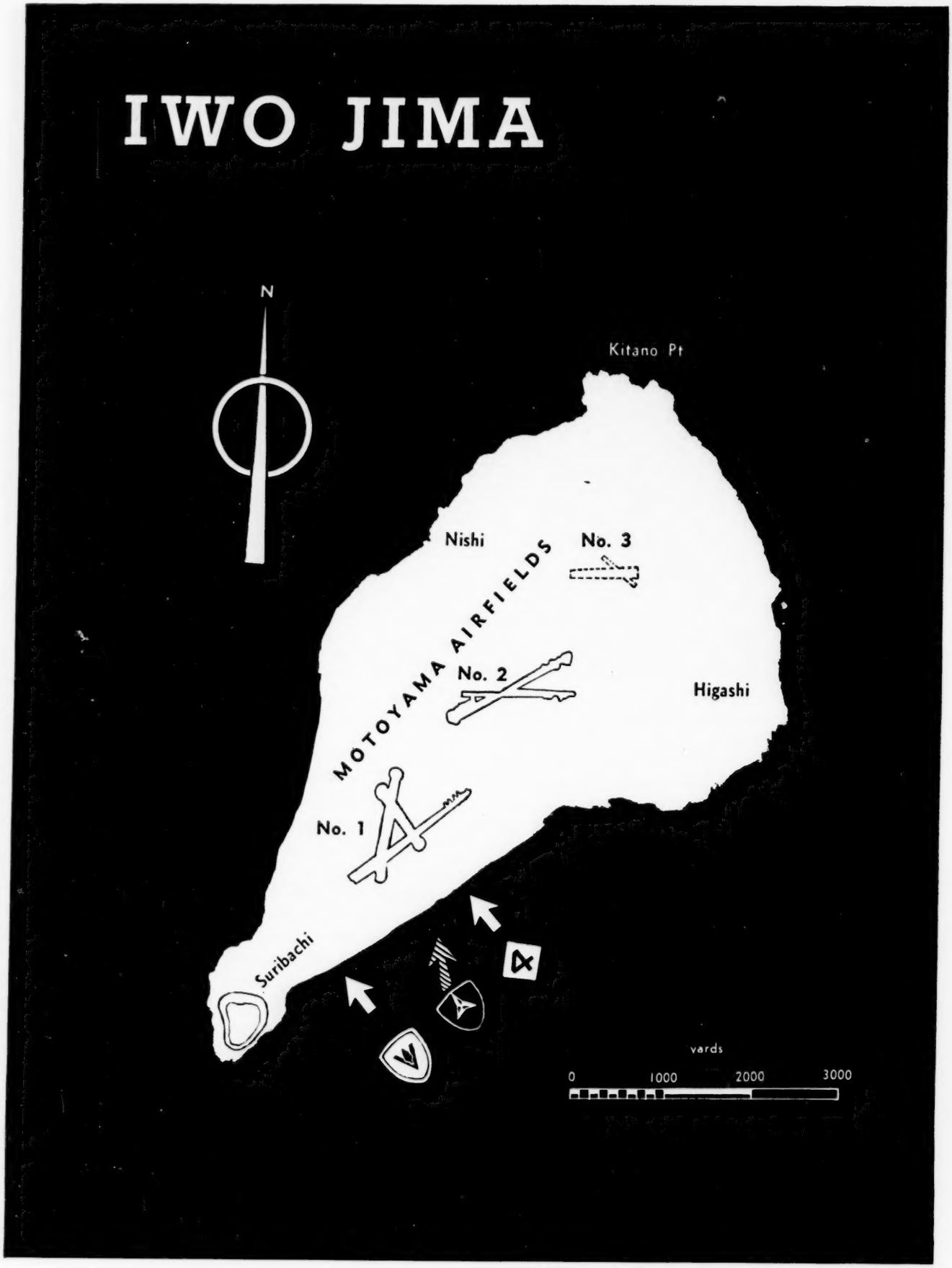
there was no opposition. While all this was going on another Marine battalion effected a landing from rubber boats on the northwest tip of Betio. During the night more men, more guns, and supplies were slipped in over the pier.

On the morning of the third day the Marines began an advance up the length of the island to the eastern tip. At 0906 the *Tennessee* bombarded the east end of Betio for twenty minutes with both the main and secondary batteries. During this time, ending at 0925, her guns silenced a large caliber shore battery that the Japs had put back into action and were firing again.

AN INCIDENT of interest occurred at 1748 that afternoon when a large Japanese submarine broke surface about 11,000 yards to starboard of the *Tennessee*. Standing in sky aft, GySgt Frank L. Pearman and I trained our binoculars on the scene. The submarine lay low on the water, with a huge conning tower in the middle. She carried a large gun on each side of the conning tower, and Japs manning the aft deck gun could be seen firing at an approaching American destroyer. An alert 5-inch gun crew on the *Tennessee* spotted the enemy vessel when it surfaced and fired 21 rounds into its hull with effect. It was a matter of two or three minutes only before the destroyer *Frazier* rammed the submarine, and the enemy craft began slowly to settle by the stern, then suddenly pointed her bow skyward, and thus slid down, stern first, to the bottom of the Pacific.

That dayfall found the main body of the surviving Japs crowded into the island's eastern end. Next morning, November 23d, the Marines pushed through to the end of Betio and annihilated the remaining Japs trapped in the island's tail. Soon after noon all resistance ended, and Betio was declared secured. It can be said that this action was the toughest fight in the Marine Corps history to date, costing the Marines in round figures some 1,000 dead and about 2,000 wounded. The troops opposing the U. S. Marines were crack Imperial Marines, and there were approximately 4,000 of them.

The rest of the story of the Battle of Tarawa is too well known to need repeating. Betio was the first test of naval gunfire in support of an assault against a strongly defended atoll, and some mistakes had been made, but the lessons learned here were the most important of the entire war. US MC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Marines in the Pacific War

Chapter 21

THE SANDS OF IWO JIMA

By Fletcher Pratt

On 24 November 1944, the Japanese on Iwo Jima Island were roused by the far-distant growl of airplane engines and poured to their positions to meet one of these attacks which had grown disgustingly frequent of late. Their error; the plane sounds diminished and died away and some hours later bombs began falling on the streets of Tokyo. The 21st Bomber Command had been born and from its home in the Marianas would thenceforward deliver its loads of death to the sacred homeland in a measure increasing to the date when Hiroshima was wiped from the world in a flash of almost soundless light.

Yet the operation had inconveniences which would ultimately become insupportable in a military sense. Only the B-29s could use fields so distant as those on Saipan and Tinian and a B-29 is so very expensive an instrument (not in money alone, but in man-hours, which are the true specie of war) that a percentage of loss which could easily be supported by an air force using smaller craft would be unendurable for them. Gen Le May, the new bomber commander, thought that the 21st had achieved more publicity than results and under the conditions did not see how results could be much improved.

Not only would it be essential sooner or later to provide the B-29s with fighter cover, but it was desirable to the edge of necessity to have a way station on the route where planes damaged in battle could descend. The Japanese interception station on Iwo could be and was fairly well kept out of business by persistent shelling and bombing, but early in the game the enemy fell upon the plan of staging small numbers of light bombers from the Bonins to Iwo, then counterattacking our big machines on the ground at Saipan both with bombs and by crash landings on our fields. On 27 November two Jap bombers surprised Iseley Field by night, destroyed one B-29 and shot up nine more; next noon they came back, burned up three more of the big bombers and sent half a squadron to the repair shop.

Iwo Jima was the key of the air war against Japan, the necessary way station, the essential fighter base. It would have to be taken.

The possibility had been foreseen as early as August while the last fighting was still going on on Guam, and instructions to prepare a plan for the capture had gone from the top echelons to Gen Holland Smith's staff and from there to the new V Amphib Corps Staff of MajGen Harry Schmidt. To the latter it was evident at once that they had a very tough proposition. Iwo Jima is one of the most revolting pieces of real estate in the whole Pacific, pear-shaped, two and a half miles wide by five long, with a quiescent volcano at its southern tip and the whole island so recently under active eruptions as to be built entirely of lava, slag and ashes. The trees are few and stunted; the ground grows nothing but a little sugar, gets all its water from rain, and by August 1944 the whole island was a fort. Its strength was clearly being increased rapidly at that date; frequent aerial photos showed the Japs burrowing like moles and there was an abundance of fresh concrete.

Early in October the Joint Chiefs of Staff in Washing issued the decision to take Iwo and the plans moved into another stage. The expedition was to include the veteran 4th Marine Division of Gen Cates and the 5th Marine Division of MajGen Keller E. Rockey which, in spite of its newness, could be looked upon as not altogether an inexperienced outfit, since it had been built round a higher proportion of battle-trained cadres than any other Marine division. The 3d, now under MajGen Graves B. Erskine, would form the reserve afloat. The fleet would be under Spruance again, as Fifth Fleet Commander, with Richmond Kelley Turner as his Chief of Amphibs and Holland Smith head of expeditionary troops. D day was set for middle February.

Here was the strategic background: after Leyte Gulf Fifth Fleet would have comparatively little interference

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". . . Every moment and from every direction the fire increased, new type weapons joined in, down to machine guns. The 25th found itself up against a system of blockhouses only partly destroyed by shells, most of their guns still active. . ."

from the Japanese Navy to worry about, for they were now down to three battleships and a possible but not probable operational force of three carriers. But the Japs could be expected to react strongly from the air and the same Leyte Gulf Battle that had destroyed their surface forces had brought the first appearance of that Kamikaze system which made even single planes dangerous. Spruance and his staff planned a great distraction and destruction raid on the Tokyo area for the date of the landing, with special attention to aircraft factories and the fields from which the suicide flyers might come forth.

ON IWO the October intelligence figures placed something like 12,000 Japs, a figure raised to 13,500 in January. Photos and captured documents showed the island well fortified, not at the beach line but all over, like Peleliu. The water was deep and the shore steep all round the two dominating terrain features, Mt Suribachi on the south and the high plateau that filled the round northern half of the pear. The landing would therefore have to be made on low ground at the neck between the two and the troops work uphill in both directions. This made the question of getting rid of the guns on these slopes by means of preliminary bombardment and later supporting fires a matter of capital importance. V Amphib thought that in view of the beach losses at Saipan where there had been two days of preliminary bombardment, at Tarawa where there had been none and the lack of loss at the places where it had really been crushing (Roi-Namur, Tinian), they wanted not less than ten days of naval gunnery against Iwo Jima.

Their plan came back from Fifth Fleet amended to three days' bombardment. Gen Smith protested; instead of a change in plans he got an explanation. A warship firing bombardment at the usual pace shoots away her ammunition in approximately three days. Iwo lies in open ocean with no anchorage near where ammunition could be taken aboard, even were it possible to trust ammunition ships so near enemy air bases. A bombardment of over three days would have to be a serial operation, with ship replacing ship, while those firing first went back to the Marianas for more shells. Now there simply were not enough ships to provide for such an attack in relays.

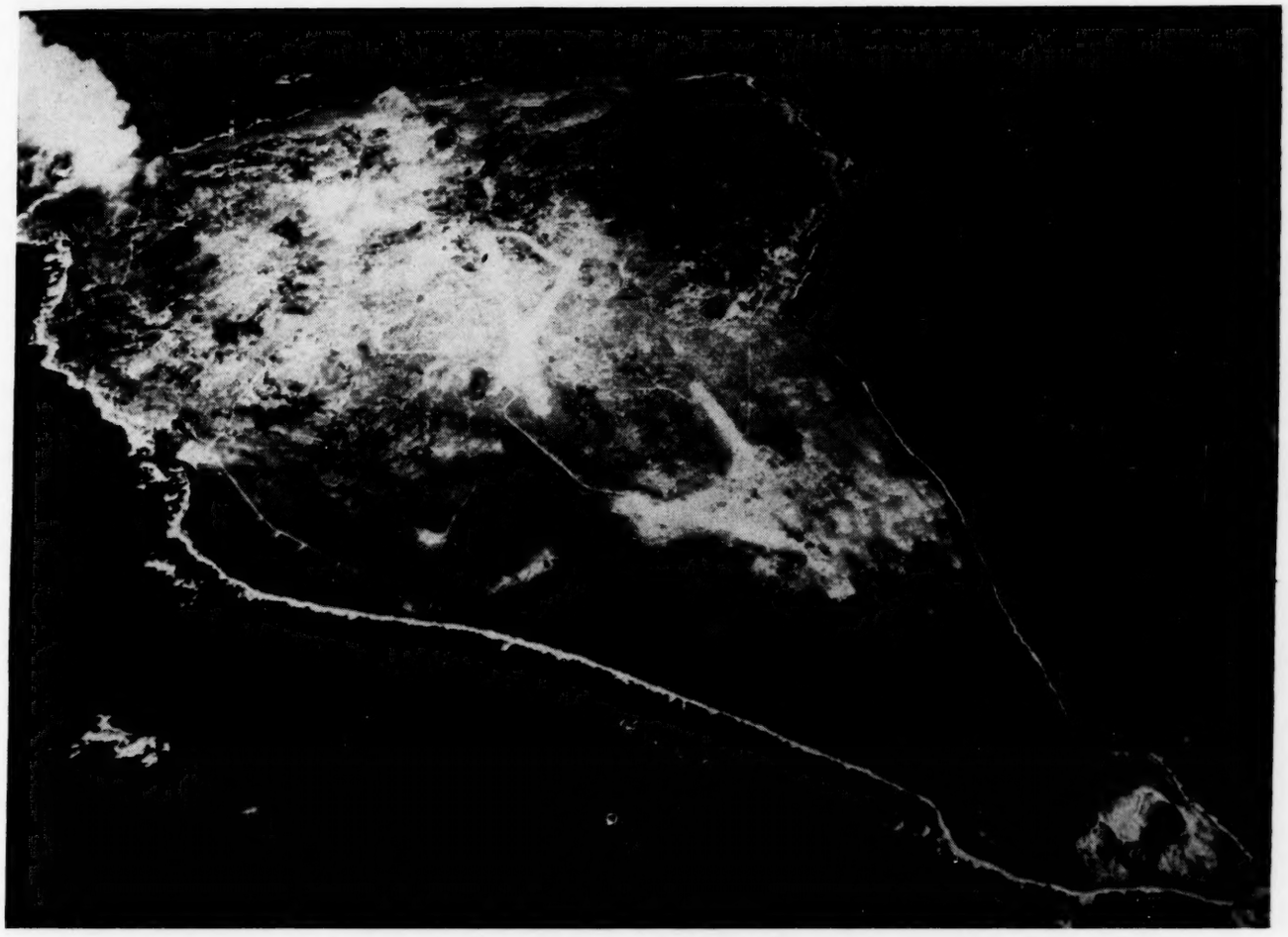
The plans for the attack on Okinawa were already well advanced and the latter was a truly vital strategic operation, one which might well lead to the starvation of Japan. It would have to be begun by strikes on Okinawa itself and on the fields in Kyushu from which the Kamikaze would come down to interfere. These strikes must be begun by 18 March and therefore no ships scheduled for the Okinawa operation could be allowed an involvement at Iwo—that is, the fast battleships could not be used there. For several reasons—Iwo might be prolonged beyond the date when the Okinawa operation was to begin and it would not do to take any ship off that job once she was on it; there was a fairish chance that a ship off Iwo might pick up Kamikaze and have to go back to dock.

For the same reasons the cruisers that normally wait on and cover the fast carriers could not be used at Iwo. As to the older battleships, there were six available, enough for a three-day initial bombardment but no more; and three of these had come from the Atlantic. Where were the rest? Two had picked up Kamikaze and were under repair. Six had been attached to Seventh Fleet for MacArthur's Luzon campaign and they were still in the MacArthur area. The General would not release them, nor would he let go the older cruisers serving with them.

This explanation was somewhat fancy, but Holland Smith's staff was forced to take it as it stood and to make their plans on a three-day bombardment basis. The more they tried to do so the less they liked it. The upshot was a second and more strongly worded protest, pointing out that photos showed the defense installations on Iwo being pushed forward rapidly; the three-day bombardment was simply not enough and they wanted four as an irreducible minimum. It was unfortunate that just at this time Holland Smith should be ill in the hospital; his eupeptic personality might have made the protest stick. As it was Adm Turner put an endorsement on the protest saying he "had no objection to an extra day of shelling providing it did not interfere with the great strike against Tokyo." This passed the buck to Fifth Fleet Staff. Fifth Fleet had been getting plans from other staffs involved and it was much felicitated to observe that Army Air from Saipan proposed sending B-24s and B-29s to bombard the target island with great weight for ten days preceding the landing. To the second protest they replied that aerial bombardment would replace the fourth day of shelling. There the matter rested, though it was allowed that two of the fast battleships *(North Carolina* and *Washington)* should load their magazines at least partly with bombardment ammunition and do some shooting on D day when they came back from Tokyo.

THE NAVY MEN undoubtedly believed, as they said they did, that the Iwo Jima concrete was so heavy as to be impervious to shelling, so that the positions would have to be taken by assault; but the fact is that they had let themselves fall into a formalization instead of judging the case purely within its own terms. Three days bombardment was enough for an island; if shelling could not reduce it in that time, then some other means was necessary.

Normally this was not the way Navy minds operated, but in this case they had become more than a little fas-



Eight square miles of hell are represented in this pre-invasion aerial photo of the pear-shaped island. The first objective was the series of airstrips at right, which were needed for B-29s.

cinated by that Tokyo operation, scheduled for exactly the anniversary of the great blow at Truk. This would be the first time American warships had run up to the shores of metropolitan Japan and there was a disposition, less a reasoned belief than an incalculable feeling, to imagine that equally sensational results would be produced. Insensibly Fifth Fleet permitted the tail of the diversionary attack on the Japanese homeland to wag the dog of the operation against Iwo*.

*The actual bombardment thus fell to Task Force 54 under Adm Bertram Rodgers, comprising the battleships *Tennessee, Idaho, Texas, New York, Nevada, Arkansas;* heavy cruisers *Tuscaloosa, Salt Lake City, Chester, Pensacola;* light cruiser *Vicksburg;* destroyers *Leutze, Newcomb, H. L. Edwards, R. P. Leary, Bennion, Twiggs, Halligan, Hall, Stembel, J. D. Henley, Bryant, Evans, D. W. Taylor, Terry, Capps,* and fast minesweeper *Hamilton.* At the last minute MacArthur released the battleship *West Virginia* and she was ordered direct to Iwo, but arrived too late and low on ammunition. It is worth noting that the force compared very poorly with that which threw shells into Saipan and even (considering how much larger, steeper and more built up Iwo was) that for the Kwajalein Islands. One improvement in command was made; as a result of the comparative gunfire failure at Peleliu a new command was instituted including Rodgers' ships and such craft as the rocket LCIs. It was in charge of RearAdm W. H. P. Blandy, whose specific duty it was to see that the fire delivered was sufficient—or at least as near sufficient as the ships available could make it.

II

THE COMMANDER on Iwo Jima was LtGen Tadamichi Kuribayashi, who fulfilled the dual functions of head of the Ogasawara Defense Sector (which included the Bonins) and commander of the 109th Division, the chief military unit involved. He was an officer of the cavalry, which in the Japanese, as in so many armies, is socially the top sirloin cut of the service; had commanded the picked guards of the Imperial Palace, directed the Censorship Office, and had finally received the inexpressible honor of a personal audience with the Emperor, a privilege which is usually reserved to members of the Divine Family, or ministers in moments of grave emergency. Our intelligence had placed his headquarters on Chichi Jima, but he was really on Iwo and the fact that all his headquarters troops were with him was one of the sources of error in advance estimates of Japanese strength.

His forces were rather a strange mixture of units and

types of units, due partly to the fact that in the hasty reinforcement of the island barrier during June, when it appeared Saipan might go, all sorts of troops were shipped there as most available in Japan; and partly to the American submarine attacks in the spring, which had caused many rescued survivors to be brought to Iwo as the nearest land, there being reorganized to the new special formations. The backbone of the infantry strength was the 2d Mixed Brigade, a Manchuria formation with much experience, 5,200 strong; and the 145th Independent Mixed Regiment, 2,400 men. There was a tank regiment which had lost half its vehicles to a submarine but still had 30 mediums and ten lights; there were three independent mortar battalions, equipped with very big mortars—155s and 240s and some with a new piece, 320s. The General himself had requested these units for his island because of its small area and high ground. He had also brought down from the Bonins five independent antitank battalions with their weapons because he believed that Iwo would be the next point of attack and that the Americans would be certain to try forcing his positions by means of tanks.

The commander of naval forces on the island was RearAdm Ichimaru, who had 7,020 men under his jurisdiction. The island command difficulties of early 1944 had not directly affected the Ogasawara sector, but had left their mark in the refusal of both General and Admiral to recognize the superior rank of the other. However they had worked out one of those cooperation agreements so incomprehensible to westerners, and in this case the cooperation was something more than a word spoken across a steaming teacup. The reason for this was that the bulk of the naval personnel belonged, not to one of the naval guard units, but to a naval construction group and the ground force of the Southern Air Group. After the Battle of the Philippine Sea and the loss of Saipan Japanese ships came no more to Iwo and its function as an air station was merely to provide a staging area for planes from the Empire moving down to attack the Americans farther south. The naval men had nothing to do in their specialties and were accordingly retrained as infantry and artillerists; retrained in haste, as Kuribayashi and Ichimaru were quite agreed that their island would be attacked by November of 1944 at the latest.

They drew their battle plan early in September, like Inoue, on the basis of the reports from Saipan; and like Inoue's plan, theirs recognized that a defense at the water's edge was brittle. The general outline of the Iwo plan was an intensely organized passive defense everywhere but at the beaches. That is, the Americans were to be permitted to land but not to expand; cut to pieces by fire as they piled up in the narrow areas at the neck of the pear. Main positions were dug in in the northern plateau, around the two more northerly airstrips (Motoyama number 2 and number 3), and on Suribachi quite early, gradually expanded and connected by caves, tunnels and defiladed trenches. They had this central purpose in view—all major weapons were sited to fire on the beaches and the roads leading out of the beaches, while machine guns and the lighter type of mortar were arranged to cover the heavier pieces and each other. A wide belt of main defensive positions ran across the ball of the pear and there was another up the inner slopes of Suribachi. A narrow belt of positions connected these two between number 1 airfield and the beach line on either side of the island.

GEN KURIBAYASHI REGARDED it as of the greatest importance to stop the American tanks, which would be the enemy's main means of escape from the trap he was laying at the beaches. Tanks as targets were to receive priority on all artillery firing. He issued a strict order against any counterattacks except those on the smallest scale and for purposes of securing information, demanding that his men "make maximum use of their defensive works"; but there was an exception in the case of tanks. All personnel were trained in the use of antitank mines and grenades and unit commanders were authorized to counterattack tanks at discretion. Units were directed to stay where they had been placed and die in position unless specifically ordered to move by high command. Quite a large reserve (three infantry battalions and most of the naval troops) was held out of the original positions, but only with the design of feeding them into the fighting areas as needed, the overall plan of the defense being gunfire from cover.

The total of troops was 22,000, within an error of a few hundred*. Of the outsize mortars there were 12; of 155 guns four, of 140s four; there were 14 120s, six 90 mm mortars, 10 88mm guns, 17 75s, 30 70mm guns or howitzers, 366 antitank guns, 54 of the 25mm machine cannon, and 478 machine guns were later counted, though it cannot be said that this is all there were. Gen Kuribayashi reported the morale of his troops extremely good, and described his men as filled with dauntless, courageous fighting spirit. This was doubtless true within the limits of the morale necessary to fight the kind of battle he had outlined, and the men gave many expressions of their desire to make the Americans pay for all they had done to destroy the very life of the Empire, but there was a good deal of grumbling and goldbricking in the Iwo Jima garrison. Candy and tobacco had been short ever since the submarine attacks in early 1944 and by the turn of 1945 had altogether disappeared except from officers' pockets. Mail did not come and there was nothing to do but this continuous job of improving the fortifications, digging away at hard rock. The men felt they were

*For a few units no muster rolls were found but on nearly all our intelligence obtained accurate figures after the battle from ration returns and similar documents.

4th Division marines charge ashore from landing craft on D-Day amidst a hail of Japanese machine gun and mortar fire. Japs planned to contain the Americans within the beachhead perimeter.

rather exiled to some kind of penal colony than proud defenders on the frontiers of the Empire. There were incidents like that of Superior Private Nakamura, who dug himself a fine shelter only to have it usurped by the company commander. He told his platoon leader that he "could not die with such a brutal guy" and asked to be ordered to some other formation.

At the beginning of February information was circulated that Iwo was to be attacked by one battleship, 18 destroyers and cruisers, and the 3d, 4th, and 5th Marine Divisions, which had left Hawaii aboard 40 transports and would arrive in four days.

III

NOBODY IN THE FLEET moving up to Iwo Jima thought it would be easy. Gen Holland Smith expected 15,000 casualties; Kelley Turner thought the figure might run higher than that. On this island there would be no question or possibility of tactical maneuver, no surprise or any of the other devices by which losses are kept lower. It would have to be a straight slugging match; and as the force approached the island the prospects that a good many people would get hurt were increased, for word ran in through the ships that the Army bombardiers had not been very accurate—"laid a lot of their eggs in the water"—and part of one day's firing from the supporting ships was missed, because the weather turned heavy, with low-riding clouds, which so interfered with air spot that Adm Blandy called off the bombardment.

There were other indications also. On 17 February, as Spruance and Mitscher were giving Tokyo its taste of carrier war (the weather turned foul and they achieved more damage to planes than factories), the ships moved in on Iwo to cover the underwater demolition teams. *Pensacola* came close enough for the 155s on the north slope to draw a bead on her. At 0938 the other ships saw splashes go up beside her, masthead high; the next shells went right in, clouds of brown smoke came out and a plane on her catapult began to burn. The big cruiser was one of the "Treaty tinclads" and ill-protected against such treatment. She had to haul out with six bad hits and 137 casualties and though she came back later (ceasing fire while the medics operated and gave blood transfusions) it was clear that the shore guns were not knocked out, only ceasing fire because they wanted to.

An hour later off the eastern beaches a group of 12 LCI rocket gunboats, covering underwater demolition teams, got into an argument with a big battery at the base of Suribachi, into which the machine cannon were drawn as the heavier guns began to score hits. All 12 gunboats were hit, *LCI 474* capsized, the destroyers had to come in and cover them with a white phosphorous smoke screen, and of these last *Leutze* was hit also. During this flare-up a four-gun battery nowhere noted in the preliminary surveys opened from above the east boat basin, a position from which it could enfilade the intended landing beaches. It was in *Idaho's* area of fire; she poured in 14-inch all around it, but there was no sure evidence that the battery was out.

The general gunfire plan had been to smash all the main battery positions on the island. The revelation that there were more of them and better concealed than any preliminary intelligence had indicated caused a revision that night. For D minus 1 the fire of four battleships was concentrated along the eastern beaches while the cruisers did what they could against the high ground to the north. That night the naval gunfire men were satisfied they had eliminated the four-gun battery discovered by *Idaho* and had pretty well crippled everything in the neck of the pear that might directly oppose the landing, but they warned they had not been able to do much about the mortar positions—too easy to camouflage, with too small openings, and they had not shown their location by firing. The most Navy could do was set the Marines on the beach in fairly good shape; they must handle the rest themselves.

They reached the beaches to do it a few minutes after 0900 on 19 February, with the 4th Division on the right of the eastern beaches, the 5th Division on the left. Each had two regiments in the assault wave, reading from left to right, the 28th (Col Harry B. Liversedge, the old Raider), the 27th (Col Thomas A. Wornham)—these being of the 5th; the 23d (Col Walter W. Wensinger), the 25th (Col John R. Lanigan). The 24th (Col Walter I. Jordan) was in reserve behind the 4th Division; as soon as the beachhead was secure it would be shoved in between the other two regiments and the three abreast were to do a right wheel up against the line of the cliff and quarry that marked the edge of the high ground to the north. On the extreme outside of this wheel would be the 26th Regiment (LtCol Chester B. Graham) of the 5th Division, landing after the assault regiments and cutting across the island at its narrowest point, with the 27th on its right. The 28th was to swing south against the defenses of Suribachi; the 0-1 line, or objective for the day, was to have the number 1 airfield in our possession, with the troops everywhere on the first steep ground. Each battalion was to have a 500 yard front on landing.

There was a break from the weather which turned fine, no swells, and Secretary Forrestal was watching from the command ship *Eldorado*. Off to seaward *North Carolina* and *Washington*, with the cruisers *Biloxi* and *Birmingham*, had come from Fifth Fleet and were firing with the rest, the boats were in admirable order and at least one marine was swearing because he had just seen on the deck of his landing craft a discarded copy of *A Tree Grows in Brooklyn*, which he had been trying for months to get hold of.

As the boats touched shore, the line of shell bursts moved inland in an original artillery performance, a rolling barrage fired from the sea. Under this fire the armored amphtracs moved through the first terrace level of obstacles by gaps that bombing and gunfire had cut and the marines hopped out of their personnel carriers without difficulty. There was only a scattering of fire from mortars and light weapons; the main trouble was the coarse grey sliding volcanic sand, which from the start paralyzed every vehicle we had. Wheels would not turn at all, even treads halted, the infantry had to climb the steep volcanic slope alone in short rushes. "Light opposition," "Light machine gun and mortar fire" came the radio reports back to the flag and in the first hour 150 yards were made, with the 27th hitting deepest. They were finding some mines and bulldozers were getting ashore. The 23d reported the ground practicable for tanks and Gen Cates sent in those that were to support this regiment.

By time the LSMs that carried them had reached the beach, at 0945, the rolling barrage had rolled deeper and the picture changed. As naval fire and the strafing planes could no longer work on the first areas of their attack because the Marines were too close to them, the Jap guns and mortars one by one came to life. The arrival of succeeding waves warned Kuribayashi that this was the real thing, not a feint preliminary to a landing on the western beaches as he had at first thought. He began to feed his reserves into the gun caves. Fire, especially mortar fire of such calibres as no marine had seen, built up gradually and remorselessly. Four of the six LSMs behind the 23d were hit, two of them badly, one so badly she could not get her tanks ashore. Every moment and from every direction the fire increased, new types of weapons joined in, down to machine guns. The 25th found itself up against a system of blockhouses only partly destroyed by shells, most of their guns still active, the blockhouses protected from direct assault by machine-gun pillboxes buried in sand and not damaged at all. The regiment was getting dreadful fire from the flank; so was the 28th from Suribachi down on the other wing; so was the 23d from the terraces up to the airfield; in the 27th John Basilone was killed, the Medal of Honor man who had disposed of 38 Japs on Guadal.

At 1100 mortar fire was officially "heavy" which, with

Marines using the term, means very heavy indeed. Worst of all were the conditions right at the beaches, where the severest fire was falling. Tanks churned helplessly in the volcanic sand and were hit; at the water's edge amphitracs, LCMs, Higgins boats were hit, burned, broached, capsized and added to the confusion of a number of old Jap wrecks that had lain there. The beaches were speedily jammed with this debris. It was almost impossible to bring in more craft and those that did come in were being knocked out with dismaying regularity. Shore and beach parties were taking heavy losses, especially among their officers, and were not getting their equipment in.

The division artillery officer of the 4th, Col Louis G. De Haven, recommended that his guns not be landed till the reserve battalions had reached the shore and deployed; there was no room. At 1315 Gen Cates, with a worried frown, told correspondent Robert Sherrod, "I wish we had six more hours of daylight. I'd compromise for two." The 25th's assault battalions had 25 per cent casualties and their dressing stations were being shelled; the 23d had 20 per cent and was calling for more air support. Col Wensinger, via radio; "The gunfire spotters have got to get down low and locate those mortars. We can't see them. They're buried in six-foot holes."

Sum it up this way: Gen Kuribayashi's defense system was achieving a success sensational because he had found for this island a method against which the tactical knowledge gained in three years of beachhead war was not of much use. The only thing that remained to our side was Marine determination, guts, forcing the solution of an insoluble problem. Late in the afternoon the reserve regiments of both divisions went in and the artillery, whether it had cover or not. They had an extremely

The beach at Iwo Jima was on open ground and afforded little cover for the attacking Marines The Japanese poured heavy fire onto the beachhead, wrecking all types of boats and weapons

hard time with the guns; had to be taken out of their DUKWs just at the water line and hauled to position by bulldozers. Other DUKWs with supply were pulled up the sand terraces by tractors—and all this time the mortar and artillery shells kept coming at such a rate that the frightful experience of Lt Benjamin F. Rosselle of the 1st Joint Assault Signal Company was not exceptional but typical.

He had a six-man naval gunfire liaison team. They got 200 yards in, to the second row of terraces. One man was hit; Rosselle picked up his gear and they went on. A mortar shell knocked three of them down, nearly cutting off one of Rosselle's feet. The others put a tourniquet on his leg while the wounded tried to crawl away. A moment later another mortar shell hit two of the unwounded and threw splinters into the lieutenant's other leg. He could neither move nor be moved; an hour and a half later as he and the surviving member of his team lay under the dust and acrid smoke, another shell landed on them, tore off the right leg of his remaining man and again wounded Rosselle in the shoulder. A fourth shell wounded both his thighs, a fifth his left arm, and it was night when a medical party got him out—to live, amazingly.

IV

DURING THAT NIGHT, fitfully lit by star shell over the inner island, fitfully lit by bursts of Jap harassing fire along the beach line, the two divisions had nowhere reached anything like their objective lines. The 27th regiment was nearest; had jagged across the southern tip of number 1 airstrip almost to the western beaches. Most of the artillery was in position ready to fire such guns as had not been hit. The 28th was facing the lower ledges of Suribachi, but had not begun to mount. Three tanks of the 4th had been knocked out by mines and more by gunfire. Their flamethrowers had disposed of a number of pillboxes but only one tank had reached the level of the airfield and that one was unable to stay. The 23d had gained little beyond the 200 yard line; the 25th still less, and had taken the heaviest casualties, with more fire coming down all the time from front and flank. Indeed, the regiment was in such shape that it was the opinion of some officers a Jap counterattack on that flank would have broken through. To climax all, the beach and shore parties were having little luck clearing out the wrecked craft and the weather predictions for the morrow was gales and heavy surf along the water.

The Suribachi command, now cut off from the main Japanese body, did try one silly little counterattack by means of barge containing 25 men, who were all killed by the 28th Marines. But on the main part of the island Gen Kuribayashi, instead of counterattacking sent a radio message to Tokyo saying that he was going to die on the island. His defense system, which had so many advantages, had the disadvantage of conceding all movement to others than himself. The Japanese forces out in the beyond could not move because the tall grey forms of Task Force 58 were walking the sea; and when the Marines moved in the great dawn redolent of coming storm, they coalesced, refined their communication lines, brought up the guns and went forward in a general assault.

It began at 0830 on the 20th of February and it moved in both directions, the 28th against Suribachi with two battalions in line, the remainder of the two divisions toward the 0-1 line in the north as originally planned, pivoting on the 25th. The Suribachi assault was as tough as it was expected to be. All round the base of that volcano was a network of mutually supporting concrete positions; from the cliffs above the Japs poured every kind of fire into the faces of the attackers, and from the north end of the island more into their backs. The tanks could not accompany the first assault. Their maintenance section had not been able to land and they had no juice or ammunition. When they did get into action progress was made, especially by flamethrowing tanks and team work between gunnery tanks and flamethrowing infantry. But the night closed down with only 200 yards gained here and Col Liversedge's men found that pillboxes which they had most thoroughly burned out were being reoccupied by enemies coming up through the tunnels and would have to be gone over again.

OUT ON THE SEA the bad weather did develop, still further hampering the beaches, where fire continued steadily throughout the day, making it difficult to get the wounded out or supplies in. Adm Blandy finally issued an order to use LSMs only in landing fresh troops or equipment and the UDT boys, who had thought they were all through with this island, had to come back to blast out some of the wrecks. It was already clear both to Holland Smith and to Gen Schmidt that they would have to use the 3d Division, and one regiment of it, Col Hartnell Withers' 21st, was under orders to land on D plus 2. This made the matter of clearing those beaches a first emergency, since furnishing food and ammunition for 50,000 fighting men would require all the beach facilities that could be had. As it was the 28th had twice been held up that day by shortages of mortar ammunition.

On the big northern front D plus 1 saw a battalion of the 26th and one of the 27th swing up the western side of the island for close to a thousand yards, taking that side of the airfield but also taking heavy casualties, especially on the left flank, where the 26th's battalion had to work through the zone with which Kuribayashi had intended to defend the western beaches. Nineteen of the 50 tanks with the division were knocked out; mortar fire fell constantly and early in the afternoon a fine rain began to fall which turned the ash to a pasty

mud that effectively clogged everything movable, especially the parts of weapons.

At about the same time as the arrival of the rain (1330) the 27th began to experience difficulty from persistent shelling of its CP and discovered that its right flank on the airfield was open.

The 4th Division, in fact, had thus far been able to gain little. All its moves were under observation from the heights, on its right it was up against a perfect maze of positions below the ridge of the quarry, and on its left was crossing the open airfield into a zone where tanks were almost useless because the whole terrain was filled with elaborate minefields swept by the fire of 47mm antitank guns. The 5th Division put another battalion of the 27th in, took over 400 yards of the 4th's front, and with a heave the lines were carried beyond the north end of airfield number 1. They were still short of the original 0-1 line when they dug in for the night with total casualties 3,055. The beach congestion was as serious as ever and the 25th lost most of its ammunition dump when a Jap shell set fire to it.

D plus 2, 21 February, was more of the same, with the main improvement at the beaches. In spite of intermittent fire from the enemy's big mortars and the pounding surf that did not decrease, some LSTs worked in to discharge direct and some matting was laid across the sand permitting vehicles to reach the upper terraces. On the northern front both divisions attacked. Their gain was an average 100 yards, but most of this was made on the extreme left, where the 5th Division troops worked up to the foot of the hill line and into the outer edge of Kuribayashi's main position, already reached by the 4th. Twelve destroyers were firing support; they worked in so close they were laying salvoes of 5-inch 50 yards in front of our lines, but they were to get closer yet before the war on Iwo was over. Against Suribachi, Liversedge made 400 yards this day, reaching the base of the vertical slopes, while two companies seeking a way to the top worked around a ledge 50 feet above the water. It rained all day, cold and drizzling; food was short; the 28th reported its combat efficiency down to 75 per cent.

Out on the ocean the Japs came down from the Empire that evening with a storm of 50 Kamikazes through low clouds that prevented a proper combat patrol. They fell on the supporting carrier group; the escort carrier *Bismarck Sea* was hit in the stern by one which set fire to her torpedo stock, she burned and capsized with 318 casualties. *Lunga Point* had holes all along her sides from another that exploded close aboard, and the veteran *Saratoga* was hit by no less than four, going back to Pearl Harbor with (oddly enough) 318 casualties also, and "more kinds of damage than I ever saw aboard a single ship." as reported by the dockmaster.

V

THERE IS AN HOUR of crisis in every battle in which something takes place that determines whether it will move forward or back. At that moment the worst and best have become known; the problem has been grasped and everyone in the fighting organization from the rear rank enlisted to the top brass has become aware, on different levels of comprehension, of what is to be done and how the resources available compare with the difficulties to be overcome. It is ebb tide, the time when victory is determined in the minds of the men. This awareness is often inaccurately described as the state of morale. It is something more than that, for it is a feeling which underlies even command decisions—as such a feeling underlay Adm Fletcher's decision to take the carriers out of range on the second night of Guadalcanal.

This hour of crisis on Iwo was not the first desperate night when the beaches were under fire and jammed with wrecked landing craft. That was merely the height of the conflict, when the irresistible force was still in clash with the immovable obstacle and neither side was as yet fully aware of the determination and resources of the other. The true spiritual crisis of Iwo Jima came on the night of 21 February; and it came simultaneously to both sides. On ours one carrier had been lost and another badly wrecked at sea—how long could this be borne? Ashore one airfield had been taken but it was as useless as that on Peleliu had been while still dominated by the guns in the overmastering ridge. No way of ascending Suribachi had been discovered. Against the belt of defenses in the north only the barest early penetrations had been made. The 23d and 25th Regiments had been beaten to pieces, the men were in low spirits under the rain, and short of food. Not many more than half the tanks of either assault division were still in action. That night a Jap shell blew up an ammunition dump with all the 4th Division's 81mm mortar supply and most of its gasoline, and the 23d had to deal with a nasty infiltration counterattack toward morning.

And the Japanese? They had not succeeded in holding the Americans in their beach trap, the losses were unreasonably heavy and one of their officers wrote in his diary; "Today is the most important day. Today we must annihilate those who have landed. There are no reinforcements for us. Are we not losing the battle at this moment? I feel keenly the need of increasing the production of airplanes."

THE BATTLE was at a standstill that night; but next morning the pendulum swung delicately in the direction of the attacking Marines. On the ocean Adm Spruance calmly detached *Enterprise* to take the damaged *Saratoga's* place and went back to soak the Empire's airfields again. On Iwo men who now knew what they were up against began to take the situation with the grim insouci-

ant humor of Americans in a long battle. They laughed to see a marine go past, prodding with his bayonet the behind of a Jap he had flushed from a pillbox and roared when an BAR man cut the runner down before the bayonetist could catch him. On Suribachi Col Liversedge, finding that all the trails to the crest had been destroyed by gunfire or by the Japanese themselves, surrounded the base of the mountain. On the following day, 23 February, the weather smiled once more as he attacked for the crests. His 1st Battalion found the cliffs impassable in that area; the 2d by foothold and handhold worked a patrol up to the lip of the crater. They found a row of machine guns with ammunition but no Japs, and at 1100, three men—Lt H. G. Schrier, Sgt A. L. Thomas, Sgt Henry O. Hansen—raised an American flag affixed to an old piece of Japanese pipe.

THE WORD PASSED through the line in the north and eyes were wet as men turned from the battle to look. But Suribachi itself was not yet taken, there were still hundreds of Japs in caves who used to come out at night in breech-clouts with demolition charges tied around their waists, looking for CPs and artillery positions. It was 25 February before that sulphur-stinking volcano was declared secure and for two weeks later the engineers were still blowing up caves from which Japs occasionally scurried, a total of 380 caves in that small area alone.

War on the northern front also turned statistical. On the morning of 22 February the 21st Regiment relieved the 23d and the next day the 24th relieved the 25th; all the front line formations worked forward into Kuriyabashi's defense system at a pace that did not exceed 50 yards a day. Correspondent Sherrod went over one of the blockhouses around which lay eight dead marines. Its outer walls were 40 inches of reinforced concrete, it had three chambers with 12-inch concrete baffles between, the vent opened only toward the heights in the rear, it had a 120mm in its gunport and a heavy machine gun pillbox atop, the whole business being covered with sand and smoothed down to look like a dune. It had taken a flamethrower to get that one and all the rest were as bad. There were no tactics in such a battle but the tactics of the squad and the four-man fire team; nothing to chronicle but the continual daily combat made up of a series of smaller battles.

In this kind of fighting, with heavy naval gunnery and naval preparations each morning before the day's attack, the center worked up to Motoyama number 2 by the night of 24 February. A reorganization brought the 3d Division into the center of the line as an entity, its 9th Regiment passing through the 21st. The ground all round the airfield was mined and the runways afforded perfect fields of fire for Jap guns mounted on the other side; we lost nine tanks there on 25 February and 11 more the following day.

To the right of the 3d, the 4th Division pushed slowly up Quarry Ridge into a hill formation known as "the Amphitheatre" and Hill 382, too rough for the use of tanks. By 26 February the division was down to 55 per cent combat efficiency. It kept on against the network of positions east of the airfield which earned the unenviable name of "The Meatgrinder." On 28 February, D plus 9, all but this one position were broken through, the Marines gained the high crest and part of the unfinished number 3 airstrip.

IT TOOK ANOTHER eight days to cover the thousand yards to the rear of the defenses facing outward at the northeast flank of the island, but it must not be assumed that this rear position brought any tactical advantage. Gen Kuribayashi had sited his holes for all-round defenses; the advance hung there until 16 March, when another big thrust carried it to the area and the island was declared secure. Even at that date it was not really secure, of course. There were remnants of the pocket above Quarry Ridge and there was a very real pocket of some 200 by 300 yards among the gorges at the north end of the island which occupied the entire attention of the 5th Division for nine days more. The infantry had to work in while tank-dozers cleared the way for tank support. The men had been without relief for over a month of fighting and they were tired to death before the business was done on 25 March. Supply was all this time a continual ache. DUKWs and weasels were the only vehicles that could negotiate the sliding sand and food had to be flown in from Saipan with air drops at the end of the line. The procedure worked very well towards the end of the campaign; an inspecting officer finding one battalion CP a few hundred yards from the fire line where they were frying fresh beefsteak and onions with Jap bullets passing overhead.

By the terminal date the casualty count showed 21,972 for the island, 8,324 of them in the 4th Division, 8,262 in the 5th, which means that each of these units had lost nearly half its men in the bloodiest battle the Marine Corps had ever seen. It was the one battle in which the final casualties were approximately equal or even a little in favor of the enemy, though it must be remembered that only 4,644 of the Marines were dead and of the wounded three-quarters recovered sufficiently for return to duty, while the Japs were all killed but an insignificant handful of prisoners.

One comment on the casualties was furnished by Gen Le May's B-29s. On 9 March, while the fighting on Iwo was still going on, they made the first of the great low level, fire-bomb raids. A third of the city of Tokyo burned up and with it all the little backyard shops where airplane parts were fabricated so that this was the first month in which Japanese plane production showed an actual decline.

A wounded Jap soldier surrenders to marines, and is helped to a first aid station for treatment.

A second comment was offered (on 10 March) by Gen Douglas MacArthur or by his indefatigable publicity man:

"Our method of attack consisted in preliminary saturation bombardments to confine the enemy within the tunnels. When this has been accomplished a small demolition group from the infantry moves in with white phosphorous grenades and flame throwers, and demolitions of several hundred pounds of explosives are placed inside the entrance and blown to close the opening. When trapped in this way the enemy are suffocated to death and destroyed without taking any compensating toll from our troops. Slow progress of the attack is allowed by these methods but an enormous saving in life and materials is effected."

Yes: but slow progress of the attack was precisely the thing that could not be allowed on Iwo. The Navy wanted its ships for Okinawa, and the air force had to have its way station today. As for saturation bombardment, it is more than probable that the ten days' gunfire requested by the Marines in the beginning would have reduced both the casualties and the amount of time necessary to take the island, and comment about the desirability of more bombardment does not come very gracefully from the officer whose insistence upon retaining the battleships in his own area was one of the fundamental reasons why there was not more fire on Iwo Jima.

On the other hand it is not likely that any amount of gunfire could have disposed of such installations as the 40-inch blockhouse found by Sherrod; not even certain that a direct hit by a 14-inch armor-piecer would have put it out of business. Late in the operation supporting destroyers, which had by this time refined their fire control system to the point where they were laying 5-inch only 20 yards ahead of the Marine lines, poured approximately a thousand tons of steel into the Meat-grinder area, and it still had to be taken by hand.

What naval gunfire could have done and did not do, except in the narrow defense belts running down both sides of the airfield between Suribachi and the main position, was to get rid of the minor positions—machine guns and small pillboxes, covering the approaches to the heavier and better protected installations. A careful survey afterward and consultation of all the documents the Japs left behind showed that not over a couple hundred of them were killed in all the preliminary bombardment. If Gen Kuribayashi's men had not been very low on morale themselves they might have done us even more damage.

The same remarks go for air bombing support. There were complaints from all the commanders on the island that the close air support was seldom adequate—or to sum matters up, because of strategic commitments elsewhere, there was simply not enough fire power available properly to cover the Iwo Jima attack. The high command, the very highest level of command, the Joint Chiefs, were trying to do too many things at once and had abandoned that wise principle of concentrating all the forces in the Pacific for a single operation, the principle that produced such spectacular results in the Marshalls and at Guam-Tinian.

There is also the point, with relation to the MacArthur comment (which refers to the hill positions east of Manila city), that no amount of saturation and no amount of time could have prevented considerable casualties during the assault phase on Iwo. Saturating one cave entrance with fire while the infantry lay the demolition charges or use flame throwers, was precisely what the Marines did on the island after the first three days and they had losses all the same. There were no covered avenues of approach and a good many of their casualties occurred out on the beach, where mortar shells continued to drop in the unloading areas to the very last. Farther in, the place was too concentrated, too intricately organized within a narrow area, for MacArthur tactics to have accomplished any more than Marine tactics did. It was not possible to attack any cave without coming under fire from several more; heavy fire from heavy weapons, as the losses in tanks testify.

But now it was over; Iwo Jima was ours and the fleet swept its great circle to the south and toward Okinawa.

To be continued

TO THE EDITOR

Message Center

Retreat, Hell . . .

DEAR SIR:

I read Guy Richard's article in the December issue and thought it was a swell article except for the part about an amphibious withdrawal. I disagree with him nearly 100 per cent on that subject. I can't believe that his arguments are tactically or logically sound. I can't understand how a military force other than a reconnaissance or raiding party could gain anything by executing a withdrawal except to attempt to extract itself from a *lost* situation. It is common and undisputed knowledge of all who have taken part in or who have studied amphibious operations that the critical period for a landing force is the first few hours ashore. Its chance for success and its potential strength and striking power is nearly directly proportional to the length of time it has been ashore. Once the landing force commander has his supporting arms ashore and a good stock of vital combat supplies ashore, he can feel that he has a firm footing and that every additional hour he is given to strengthen his beach head, the better are his chances of repelling the expected enemy counter attack and subsequently of defeating the enemy forces.

The practice of hitting a beach area for a few hours or days and then withdrawing to hit another beach area, would mean that the landing force would be subjecting itself over and over again to that most critical period in any military operation, that is, the period covering the establishment of a beach head.

The only real advantage that the attacker from the sea has is surprise and temporary superiority of the sea and air in that one locality. He must use that surprise and temporary sea and air superiority to put men and weapons ashore by the fastest means possible so that his attacking forces will be fighting on an equal basis with the defender. There is no one who feels the advantage of a toe hold on Mother Earth more than "private marine" who uses the bayonet and hand grenades. There is no feeling more helpless to him than to be crouching in an amphtrac or boat moving in toward the beach with some one on the beach shooting at him. He prays and longs for the chance to get his feet on the ground where there is cover and concealment and where he can fight on an equal basis with his enemy.

Maj Richards speaks of withdrawing when the landing force becomes confronted with superior forces. That *is* asking for disaster. At the very best a retrograde movement is difficult and dangerous. Under attack of superior forces it would be a catastrophe. Why not stay in position, go on the defensive temporarily, make use of the advantages of the terrain, your automatic weapons, your naval gunfire, artillery and air support—let the enemy attack you—let him move into prepared barrages of your supporting weapons and onto the barbed wire and mine fields covered by your machine guns. Is there any easier way to destroy the enemy than to have him walk into a trap prepared for him?

From the pschological viewpoint the training for, or even mention of a withdrawal is detrimental to the fighting spirit which is so essential in an amphibious landing force. The man whose thought is "I've got to do this, there's no turning back" is far superior as a tenacious and efficient fighter than the man whoe thought is "I'll try this but if I *can't* I'll turn back or quit."

I can see no justification for a planned withdrawal if the mission is to seize, destroy and occupy, or if the ultimate aim is to defeat the enemy and seize the land mass on which we establish our initial beach head.

L. W. WALT,
LtCol, USMC.

Each month the GAZETTE *will pay five dollars for each letter printed. These pages are intended for comments and corrections on past articles and as a discussion center for pet theories, battle lessons, training expedients, and what have you. Signatures will be withheld if requested.*

Reserves and Regulars . . .

DEAR SIR:

I read with a great deal of interest an article by Capt Dennis D. Nicholson, Jr., titled *Recruiting—First Service of the Corps* [December 1947]. It appears to me that the task of replacing the some 40,000 men scheduled to be discharged this year could be made much easier if preference would be given the Reserve who enlists or reenlists in the Regular Marine Corps.

I am a mmeber of the 12th Infantry Battalion, Marine Corps Reserve, and I have talked to a few of the younger men of the battalion who are desirous of shipping over in the

Regulars. However, they become hesitant when told that they will be accepted as privates and sent to a recruit depot. Most of these men spent two weeks at Camp Pendleton the past year where they underwent a strenuous training program. They have also taken part in local parades, civic functions, celebrations, and various schools; gone on week-end cruises aboard destroyers—all on their own time. This is in addition to one night a week spent in drill and instruction with pay.

It is the opinion of the undersigned that men in the Organized Reserve who ship over in the Regulars should be given their grade or one rank below their grade held while in the Organized Reserve and also that they should be transferred to a post or station where they could be given additional schooling and training in lieu of going through boot camp.

It seems to me that men who have served in the Organized Reserve for a year or more should not be placed in the same category as men who enlist in the Regular Marine Corps who have had no previous military service.

MARINE RESERVE SERGEANT.

Dissenter . . .

DEAR SIR:

Regarding your hope that GAZETTE readers would agree with you that "the new lines are very becoming to the old girl," expressed in your January issue, I would like to dissent.

I am in one of the offices fortunate enough to receive for its files the monthly copies of your publication. The magazine you published from mid-1944 through 1947 was ideal size for filing and binding, whereas the "new look" isn't so convenient as a filing piece.

It is difficult to understand why, assuming that a change was warranted, you didn't readopt the dimensions used in your issues prior to the 1944 change, since there was such a little difference.

In any event, in the interest of those concerned with keeping permanent files of your editions, let me urge you not to change your make-up unless it appears absolutely necessary and then I urge readoption of the one you discarded at the end of 1947.

DENNIS D. NICHOLSON, JR.,
Captain, USMC.

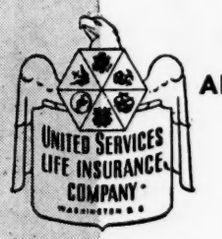
ED. This is the *only* letter received which disapproved the GAZETTE's new format.

New Subscriber . . .

DEAR SIR:

That your readers at this Post [Navy Yard, Philadelphia] approve whole-heartedly of the magazine's "new look" is evident. One can no longer be certain of procuring a copy from the rapidly depleted supply at our local PX.

The realistic and humorous portrait of a Marine Corps "Top" in *The Top Goes Out on Thirty* was particularly good;



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and only one thing was missing from the critique on administrative Brahminism, i.e.:

"INITIAL AND
RETURN
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ROBERT L. TANNER,
TSgt, USMC.

Perplexed Lower Echelon . . .

DEAR SIR:

As a potential participant—on the lowest level—in the application of MajGen del Valle's *Strategy of the Pacific* outlined in the January GAZETTE, I found his article very interesting and informative.

However, it would appear that the General's reference to the possibility of military co-operation from our former Japanese enemies hardly jibes with the recent action of the Japanese Diet. A coupe of months ago, if memory serves, these gentlemen stated the intention of the Japanese people never again to maintain an Army or Navy nor to resort to warfare as a means of settling international differences

RALPH H. CLOVER,
Corporal, USMC.

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The First Island Commander

continued from the back cover

true: the *Essex* lost her main top mast and was pounded to pieces by the longer-ranged guns of the British. In two hours Porter lost over half his crew and was forced to strike.

Meanwhile Gamble was having his difficulties at Nukuhiva. Most of the Americans had quickly made amorous arrangements with the island's Polynesian beauties. There was a genuine princess named Piteenie who had a fondness for Gamble and also for parading ceremonially in something less than nothing. Trouble was inevitable.

Wilson, the renegade Englishman who also had an attachment for Piteenie, caused it by organizing a native revolt. Gamble took action. With a "field army" of 35 and the guns of Fort Madison and the remaining ships supporting him from the rear, he marched on the rebellious village. This show of force was effective; the army of two or three thousand native warriors dispersed.

His provisions running low, Gamble took one of his ships, the small *Sir Andrew Hammond*, on a short trading expedition to the neighboring islands. During his brief absence the discipline of his garrison slackened measurably.

Fearing open mutiny, Gamble had all the muskets, powder, and shot stored aboard his own vessel under close guard. Even so, four men, an entire watch, deserted one night, taking a quantity of irreplaceable military stores. They had wrecked all the ship's boats to prevent pursuit and in the confusion that followed one of Gamble's most loyal marines was drowned. There were few dependables left.

It was increasingly obvious that Porter was not going to return. Gamble, on 12 April, began to make the *Greenwich* and *Seringapatam* ready for sea. Not wishing to leave the Marquesas, his garrison became more and more mutinous.

Open rebellion flared on 7 May. Gamble was surprised, bound, and thrown into the brig of the *Seringapatam*. Minutes later, his remaining officers, Midshipman Feltus and Acting Midshipman Clapp, were similarly taken. The mutineers, having secured all the small arms aboard the *Seringapatam*, spiked the guns of the *Greenwich* and Fort Madison. Gamble attempted to escape and was shot through the heel, a wound which left him him permanently disabled.

The *Seringapatam* put out to sea. When about four miles offshore, the mutineers loaded Gamble, Feltus and Clapp into a leaky boat along with three muskets and a little powder. After several hours of hard going they managed to make Nukuhiva and boarded the *Greenwich* where they were joined by the few remaining loyal members of the garrison.

The Marquesans, realizing Gamble's plight, set about to plunder his stores and ships. Gamble decided to run for it and decided on taking the *Sir Andrew Hammond* as being the most easily handled of his remaining ships. In assembling his sparse supplies four of his remaining men, including his second officer Feltus, were killed by the natives.

Luckily, the *Sir Andrew Hammond's* guns had not been spiked. Under their cover, Gamble succeeded in firing the *Greenwich*. Raising what sail he could and partially weighing anchor, Gamble drifted seaward with just seven men aboard including himself. Three of his crew were seamen, three were marines. Only Clapp and one other were in good health. They had no charts, no navigation instruments.

Yet, cutting their anchor free, they somehow set a course for the Sandwich Islands. Fifteen incredible days later found them in Oahu. Here they were received warmly by the Hawaiians and the colony of traders. They heard rumors of another ship in the vicinity. Gamble suspected that it was the mutineers *Seringapatam*, but Gamble's guess was wrong.

To repay the Hawaiians' kindness, Gamble agreed to take several of the chiefs to a nearby island so they might pay tribute to their king. En route they were intercepted by the rumored ship. It was the *Cherub*, the same that helped finish Porter at Valparaiso. Escape or defense equally impossible, Gamble surrendered.

The *Cherub* sailed for Valparaiso and then for Rio de Janeiro. Here Gamble was paroled on 28 November 1814. Broken in health, he reached New York in August 1815. Promoted to major and then to lieutenant colonel for his heroic services, he remained in the Corps until his death in 1834. EHS

The First Island Commander

IN EARLY NOVEMBER 1813, A CURIOUS FLEET of ships sailed into the harbor of Nukuhiva in the Marquesas Islands. It was the improvised squadron of Capt David Porter—one real man-of-war, the rest made-over British prizes.

Over a year had passed since his frigate *Essex* had cleared the Delaware Capes to begin what was probably the most adventurous cruise ever logged by an American man-of-war. In that time Porter and the *Essex* had harassed British shipping in the South Atlantic, had rounded the Horn, had been received royally in Valparaiso, Chile, and had destroyed the British whaling fleet operating in the vicinity of the strange, nightmarish Galapagos. Now, deciding to sidestep the British cruisers scouring the Pacific for him, Porter had sailed to the little known Marquesas.

The *Essex* was a ship of mixed reputation. Rated a 32-gun frigate—the only one in the American Navy—she had been built by subscription in 1799 by the people of Salem, Massachusetts. Her former commanders had alternately praised and damned her. To Porter she was a good ship but with definite limitations. Her armament—a preponderance of carronades and a paucity of long guns—was not to Porter's liking. She mounted a main deck battery of twenty-four 32-pound carronades and only two long twelves. Her spar deck mounted sixteen more carronades and but four more long twelves. Porter feared the consequences of this heavy weight, short range armament. Prophetically he wrote:

"Was this ship to be disabled in her rigging in the early part of an engagement, a ship much inferior to her in sailing and in force, armed with long guns, could take position beyond the reach of our Carronades, and cut us to pieces without our being able to do her any injury."

Porter had with him as lieutenant of marines an energetic young man named John Gamble. Gamble's father, an officer in the revolution, had sought, with a new war against the British beginning, an appointment for his son as a midshipman in the rebuilding Navy. No vacancies available, he contented himself with a Marine lieutenancy.

Gamble had attracted the critical eye of his commander. In a scrape with the 10-gun packet *Nocton*, it was a volley of his marines' muskets that decided for the British that resistance was useless. Later as prizes became more numerous, Porter gave his Marine lieutenant command of one of his make-believe cruisers—the 20-gun *Greenwich*. Gamble did well with it. He captured the *Seringapatam*, a British whaler with a bad reputation for pressing seamen and pirating oil.

Now, with Porter's squadron moored at Nukuhiva, a tattooed Englishman, Wilson by name and acting prime minister by self-appointment came paddling out to offer his cooperation. There was a little matter of a civil war going on between the coast natives and the hill people.

Porter put a landing party ashore. The Marines and some of the sailors were armed with Whitney muskets, the first weapons to be mass-produced in this country. Not much in the way of accuracy, but they threw an awesome one ounce ball. The civil war was quickly settled.

On 19 November 1813, Nukuhiva was renamed Madison Island and annexed in the name of the United States. A battery of ship's guns was hauled up to a hilltop commanding the harbor and the quickly thrown up breastworks named Fort Madison. Gamble and his marines formed a kind of provost guard for the shore establishment.

SHORTLY thereafter Porter took off with the *Essex*, the *Essex Junior*, and the better part of the original crews. Gamble was left behind with 21 marines and sailors with which to garrison the island. Also left behind were the remaining English prisoners of war. If Porter failed to return by the first of May, Gamble was to abandon the base and make his way to the mainland the best way he could.

Gamble would wait in vain for Porter's return. In February, two British men-of-war, the *Phoebe*, 36, and the *Cherub*, 20, caught the *Essex* and its junior counterpart in the harbor of Valparaiso. In the ensuing engagement Porter's predictions came

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